

# The Dental Digest.

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## Original Contributions.

### SUGGESTIONS ON DEVELOPING AND CONDUCTING A DENTAL PRACTICE ON BUSINESS PRINCIPLES.

By J. N. CROUSE, D. D. S., CHICAGO.

[Continued from page 261, No. 5, Vol. 1.]

As there is probably no part of a dental practice more difficult or more vexatious and harassing, especially to a young practitioner, than the question of fees, or how to obtain just compensation for services rendered, we venture to give a few more suggestions as the result of our experience upon this point.

If we pause to think for a moment how comparatively new our profession is, how short a time has elapsed since we were known as "tooth-carpenters," and how rapidly we have evolved from an insignificant trade into a highly respected profession, we will see why there is such dense ignorance in regard to our profession, both as to the work itself and the compensation which should be paid; therefore, it is not enough that a dentist should have mastered the technical part of his profession, but every dentist must be an educator as well.

It is said that all things have their time and place, but this educating of a patient needs to claim pretty much all times for its own. It must be done at the outset, as the work progresses, and may perhaps not be fully accomplished until the work is finished and the bill rendered, when parting words of explanation may be needed. We are confident, however, that the secret of success in avoiding trouble in this direction is preparation in advance of the work. A marked case of unpleasantness from lack of this in our earlier experience comes to mind as we write. There appeared in our office some years since two handsomely dressed

young women who said that they came upon recommendation of their uncle, a wealthy man who had been our patient for many years. Under the circumstances we neglected our usual precaution to send for the father or mother for consultation as to expense. The work was found difficult; the teeth were very close together; there were many cavities on the approximal surfaces near the cervical margins; this necessitated much wedging to avoid cutting away of the solid tooth substance, and the teeth were exceedingly sensitive. With these conditions an enormous amount of time, painstaking effort and nervous force on our part were expended, so in consequence the bill was large. We had seen neither of the parents while the work was being performed nor had the daughters made any inquiries concerning fees. Upon finishing the work the bill was rendered, to the dismay of the father and the astonishment of the daughters. Evidently their education along this line had been neglected. The father was a rich, thrifty German in business partnership with the uncle who had recommended the family to come to us, and he did not hesitate to spend money where he had something to show for the money expended. In the midst of a difficult operation one day, soon after sending the bill, the door-bell rang violently and our presence was demanded. We excused ourselves from the patient for a moment, and found in the reception room a large, finely-dressed, irate German pacing up and down and fairly foaming at the mouth with rage. When we entered the following dialogue took place: "Are you Dr. Crouse?" "Yes, I am Dr. Crouse." "I got a bill, I don't understand it!" "Would you like to see the items?" "No, I do not care anything at all about it. It is impossible that you could have such a bill. It is a swindle." We tried to explain the difficult nature of the work, the time consumed, etc., to all of which he would not listen, but only walked back and forth, repeating "It is impossible, impossible that you could have done so much work. *I cannot see any of it.*" We replied, "I did not put it there for you to see." Again in broken English, he burst forth, "It is a swindle and I will not pay the bill." Finding that he was as unreasonable in his anger as a mad bull, we changed tactics and replied, "You did not leave your business and come five miles across the city to tell me that, did you? You could have told me that on a postal and saved a part

of your car fare." Buttoning and unbuttoning his coat and wildly gesticulating, he continued, "But I will not pay the bill, a swindle, a swindle, what will you do about it?" We replied, "I am going to do nothing until you cool down and become a rational being." "Oh, oh," he said, "my brother-in-law should never have sent me to such a place." Seeing that it was useless to attempt to reason with him, we finally said, "My patient is waiting and I will bid you good day," and returned to the office. Surprised at this turn of affairs, he soon left. We continued to send the bill regularly every month, but it probably would never have been paid without a lawsuit but for the brother-in-law who came to see us. We explained the case to him, showed him the charges and diagrams of the work, all of which were perfectly satisfactory, and he told the father that if he did not pay the bill he should pay it for him, and so the father concluded to pay it. We have never seen the man since, but he doubtless thinks to this day that he was badly swindled, whereas the bill rendered was a very reasonable one. I have little doubt but that, had we sent for the man and explained the case to him beforehand all trouble might have been avoided and the family retained as patients, but when the idea had once entered his mind that he had been swindled, it could not be dislodged. There is one consolation, however, he is prepared for the next dentist's bill he may have to pay.

We recall another instance which happened in former years.—A very large amount of work had been done for several children in a family and the bill amounted to something over \$1100. The father was surprised, but being a just and reasonable man, upon ascertaining the facts, he was satisfied, paid the bill promptly, and the family remained loyal patients and firm friends.

We consider the latter case a species of good luck in that we had a rational man to deal with, but a long experience has taught us that it is wiser to ascertain whether or not a patient is informed as to dental fees, and if not, to give him some idea as to expense, although you cannot always or perhaps often name a definite sum before the work is performed.

We have said that this tutoring of our patients must go forward in season and out of season until the public are better informed as to compensation for dental services. While the work is being performed, there are innumerable occasions for dropping

a word here and a word there without seeming to dwell on the subject. Your early morning patient arrives perhaps before you have finished the mail. One or more checks have arrived; what is more natural than to mention how much easier the work goes and how much more enthusiasm the dentist has in his work when remittances are prompt and accompanied by words of appreciation of services. Or perhaps your lady patient tells you of some friend who has left her dentist on account of his charges. What is easier than to say that no charges are exorbitant if the work is well done. Here is a chance to say a word for your brother practitioner, and in helping him you help all dentists.

But perhaps there is no time or condition so favorable for talk upon this subject of fees as when the work is just completed. If there is any time in the world when a man feels good, and thoroughly satisfied with himself and with the world at large, it is when he has had a great deal of dentistry done, has suffered all sorts of torture, and feels that it is all over at last and that he is the happy possessor of a perfect masticating apparatus. With what interest and pride he inspects the work in the mirror. It is a moment of supreme satisfaction. If any further educating as to the skill which can give him such results is needed, now is your opportunity. It is quite common for a patient to say, "Now, Doctor, make the bill as low as you can." We reply, "Why don't you say, charge me well, you have done your work so well?"

Another point which has been invaluable to us in the matter of fees is the way in which a bill is rendered. We found itemized bills very unsatisfactory years ago, as a patient cannot understand a bill of items in dentistry as he can in dry goods; hence we abandoned rendering them and substituted the following plan which has proved most satisfactory. Upon completing the work, if much has been done, we say, "Now I don't want to take the trouble to render you an itemized bill which you would know nothing about when you got it, but here is our book showing upon the diagram just what has been done, and here is the charge for each sitting, look it over." Then turning to our assistant we request her to make out the bill from the date when the work was begun to the date of completion, including number of sittings. If any questions arise they can be explained here and now. We consider this plan one of the best we have ever adopted as it



avoids all future discussion of the bill, and is far preferable to the rendering of an itemized bill or one giving simply the amount without items.

We have discussed the question of how to obtain a just compensation for dental work, taking it for granted that we are talking to a class of young practitioners who have too much integrity to charge for services which have no value; and who respect themselves too much to take advantage of a patient's lack of knowledge of dental fees and overcharge. In no way is influence gained or lost more rapidly than by conscientiousness or the lack of it in work and charges.

One other suggestion we wish to emphasize, viz., the importance of well kept books. Any hints upon this may seem superfluous, but we have reason to believe from our experiences in taking testimony for the Dental Protective Association for the past eight years, that there is perhaps no duty of a dentist more generally overlooked. Indeed we found it the rare exception where a man has been able to tell us from his books when certain work was performed and just what was done. We owe it to ourselves and to our patients that the record of past work shall not be trusted to memory, and that we are able to show a patient at any time a carefully itemized account in connection with a diagram of all work we have ever done for him.

One last thought for the dentist's consideration. The satisfaction which the patient feels upon completion of his work is as nothing compared to the feelings of the operator when he has a bank account. To obtain good fees is one thing—to keep them is quite another. Why are we looked upon as a profession of ready money makers and at the same time as impecunious? Simply because we make our money and spend it. Never having any in reserve compels us to pay the highest prices for all we buy instead of taking advantage of our opportunities. We fear that no argument of ours as to increased self-respect, respect for others, convenience or economy would avail to induce even one young practitioner to open a bank account; so in place of argument we ask all young practitioners just to try it. No matter how small the beginning, make a start and the account will grow, and once having such a reserve, you will never be content to be without it.

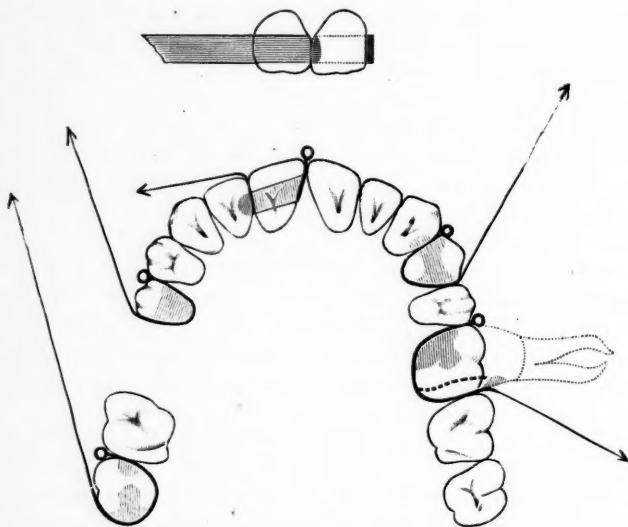
(TO BE CONTINUED).

## GERMAN SILVER MATRICES.

By G. A. BRONSON, D. D. S., ST. LOUIS, MO.

The accompanying cut illustrates the great assistance to be derived from a German silver strip matrix in filling all proximal cavities in either jaw, presenting on the buccal, lingual, or grinding surfaces, from the wisdom tooth on one side to the corresponding tooth on the opposite side.

A piece of German silver is rolled to No. 36 gauge, and cut in strips averaging 3-16 wide and six inches in length. The end intended for the teeth is rolled upon itself to a coil of 1-16 inch in diameter, and the other end to a coil of 3-16 to hold on by, or what is still better, soldered to a ring to slip the finger in. Both coils should be filled with soft solder.



This form of matrix is especially useful for a number of difficult cases, where the older forms were lacking, such as the disto-lingual surface of a wisdom tooth, a proximal cavity where the adjoining tooth is lacking, etc. It is most useful for all plastic fillings, but at times comes in very well in operating with gold.

It is quickly adjusted and removed, and owing to its extreme flexibility, its removal is less liable to disturb a new made plastic filling than the ordinary form of matrices. The end with the large coil or ring is held taut by the operator or assistant.

Beginning with the right wisdom tooth, the cut shows a disto-palatine cavity for which the strip matrix can be adjusted in less time than it would take to only measure the tooth for a band to be soldered and adjusted, besides leaving no band to be cut open after the filling is inserted. The third molar also shows a simple anterior proximal cavity. The second right bicuspid shows the method of restoring palatine cusp; if the buccal cusp were missing it would be equally useful. The lateral shows a cavity opening on the palatine surface and not involving the buccal to any extent.

The small cut illustrates a cavity opening on the buccal surface, and on removing the strip a sufficient space will be left to finish the cavity with strips. The strip as adjusted to left first bicuspid illustrates its use for three fillings in one operation, and were the second bicuspid missing, a difficult position for adjustment of the ordinary matrix, its usefulness would not be impaired in the least. The first molar shows two cavities very difficult of adjustment for the ordinary matrix, especially the large distal cavity, not involving the grinding surface but presenting on both the palatine and buccal surfaces. When the opening on the palatine surface is larger than on the buccal, the strip is reversed and the filling inserted from the palatine side.

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### THE ADMINISTRATION OF GAS.

By W. H. DUDDY, D. D. S., BOSTON, MASS.

The April number of the Dental and Surgical Microcosm contains an opinion relative to laughing gas, advanced by H. Squibb, in which he declares that any one who administers gas to a patient, without requiring a certificate from the "patient's medical adviser," stating that the patient is in a fit condition to inhale the gas with impunity, should be responsible for the life of the patient, and held accountable by law. If that were the case, who would certify to the fitness of the physician giving the certificate?

I think it would be a much easier matter for the dentist to ascertain by a few dexterous questions put directly to the patient, whether or not it would be safe to administer the gas, and after the questioning, if any doubt existed as to the advisability of administration, such doubt could be promptly settled after a few inhalations.

It is quite obvious that H. Squibb draws his conclusion from the standpoint of a theorist, rather than from that of a practical dentist, for were it otherwise, he would know the insurmountable obstacles placed in the way of the dentist upon the mere mention to the patient of a certificate being required. At that time many individuals are likely to look upon the dentist with loathing and fear; if he even intimates that there is the remotest possibility of anything being wrong with their systems, other than palpitation of the heart, and even this is sufficient proof to almost all women that the organ has ceased to properly perform its function, and if an anæsthetic should be administered death would surely ensue. It must not be forgotten that one great advantage accrues to the benefit of the dentist, namely, that all of his patients are able to walk into his office, consequently it is evident that they are not confined to their beds. This fact of itself is of very great assistance in enabling the dentist to determine if it is necessary to question the patient at all. In most cases it is really unnecessary. Furthermore, it seems to me that with the education which dentists are supposed to possess after graduation, and with the "Board of Examiners" which should prove that their education is not lacking, all dentists should be just as competent as physicians to decide whether it is advisable to administer an anæsthetic or not; except in very extreme cases, when a thorough examination of some of the vital organs is demanded. Even then the dentist need not remain in doubt, because the patient has generally been under treatment in the past, and is sensible enough to make all necessary inquiries. I do not desire to criticise the gentleman, because I think his intentions are absolutely honest, but I do not think he is conversant with the difficulties which beset the dentist's path, especially in dealing with people when they are laboring under great excitement, and when "trifles light as air" are magnified a thousand fold.

In the same number, under the heading "Incongruity," rather

loose language is employed by Dr. M. W. Sparrow, when he says that he has had his "share of fun with fractious patients." It is beyond my power to conceive how anybody can have "fun" with a full knowledge of the responsibility of having a life in his charge. I must confess that after thirteen years of experience I have never administered an anæsthetic without feeling the most tremendous anxiety while giving it, and the most exultant relief after the whole affair was ended and consciousness regained. I do not think that I can ever be accused of being a novice, nevertheless I cannot view with any other feeling than alarm, the condition of some patients when under the influence of gas, when no power on earth is capable of defining the line of demarcation between life and death. A dentist who has administered "gas hundreds of times and never seen an alarming symptom," either does not know an alarming symptom, or else is oblivious to all symptoms and is intent only on getting the patient in a condition where his efforts of resistance are futile.

Perhaps a few suggestions regarding anæsthesia would not be out of place at the present time. In view of the many able articles that have been written, and the detailed accounts given of the methods of administering anæsthetics, it is somewhat surprising that so little has been said regarding the control of the patient by the operator. I contend that the manner in which he exerts his judgment over the patients in the form of tact, call it magnetism, hypnotism, mind over matter, what you will, has more to do with the successful completion of anæsthesia than the best anæsthetic that will ever be produced. No matter what virtues it may contain, it will never be able to overcome that terrible dread experienced by a large percentage of the people who are obliged involuntarily to lose consciousness. The most essential thing to be done is to relieve the rigidity of the mind, and with that end in view the dentist should exercise his faculties to their utmost and by his tact actually force a relaxation of the patient's nervous system. On his ability to do this largely depends his success as an operator in this particular sphere. The power to do this cannot be taught, it can be learned only by observation and a desire to inflict the least possible pain, whether it be physical or mental.

The control of the patient cannot be gained by any method of logical reasoning with the one concerned; it must be gained in

such an indirect manner that not even the dentist's assistant, although knowing his intentions, can divine the means employed.

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### TOAST, THE FACULTY.

Delivered at the American College Alumni Banquet, April 4, 1895.

BY W. T. ECKLEY, M. D., CHICAGO.

LADIES AND GENTLEMEN:—Permit me to assure you of the great pleasure it gives me, gentlemen of the faculty, to address you here this evening under these most delightful circumstances, and on a topic too often almost entirely ignored on occasions of this kind, and by gentlemen of your high educational standing. Except perhaps it be the dinner itself, nothing gives me greater satisfaction than after-dinner speaking, and when to these we add a response to a toast, The Faculty, pleasure and satisfaction are fanned into a veritable flame of enthusiasm.

The toast, "The Faculty," on after-dinner scholastic occasions, is only the poetic embodiment of the prosy idea of the relation of superior to inferior. A natural, inherent, justifiable, courteous antagonism always obtains between superiors and inferiors of the same genus. This antagonism must be broken down, and the initiatory step in the breaking-down process must be made by the teacher—the while the egotism of the one and the altruism of the other must react on each other till a new compound results—one constant, enduring and ego-altruistic in a superlative degree.

I would invite your attention to the importance of personal acquaintance with the class. This I consider the *sine qua non* to success for a teacher of dental as well as medical students, regardless of sex. It has been my fortune the past year to guide the anatomical destiny of a thousand students in different institutions of learning in this city. This is a laborious task, but the labor is not in delivering lectures and preparing for demonstration, but in hunting up the registered pedigree of each student, and in making him feel that you are in earnest, and that he is the special point about which your interest centers.

I would call the attention of your honorable body to the mod-

ern method of teaching. Let dental and medical faculties remember they are *not* specialized in the direct line of teaching, but in the line of dental and medical practice. Let us then learn wisdom of those who *are* making the imparting of instruction a specialty. I refer to the educators in our public schools, of whom we so justly feel proud. The key-note of modern instruction is object-teaching, combined with the sentence-method. The time it took you and me to learn the alphabet under the "lickin and larnin" regime, now teaches our children twenty-six sentences, each a living and something-meaning entity in itself.

Again, let us differentiate between the kind of instruction necessary for children and that for adults. The teacher who assumes to instruct dental students after the infantile method, will as surely come to grief as will he who disciplines children after the adult plan. On the one hand we have to deal with anatomically developed brains, on the other with those in whom sensitivity, motivity and ideation are embryonic.

I would urge on faculties everywhere to insist on having *principles* and *generalization* taught rather than details, which latter so often figure conspicuously, both to the disgust of the student and to the depreciation of the teacher, in final examinations. State boards of examiners, dental and medical, give the tip in their practical and well-formulated lists, but we teachers, stupid men that we are, fail too often to make our questions practical, instinctively following in our methods the practice of the pedagogue of a half century ago.

Another point I wish to call to your notice is the Americanism "pluck." This is the first technical word the freshman learns; it is the by-word of the junior, and really the only thing in Chicago feared by the senior. In my humble opinion, if there was more plucking done in the faculty and less among the rank and file of the students, the world would be better off, educationally at least. My soul goes out to any student who voluntarily submits to a student's life in this great metropolis for long years, and this to me is *prima facie* evidence of his sincerity of purpose, and in equity, should entitle him to at least the leniency given even to criminals in every civilized country, viz., the benefit of the doubt. On the other hand, I have positively no use for the teacher who frames his opinion of the fitness of an individual for graduation on a final



written examination, the while having no personal acquaintance with his class. "Plucking" now has all the dignity and stately proportions of a system. Some schools strive to come into favor by the pluck record. This pernicious system ought to and will be throttled sooner or later, for sooner or later the legality of the custom will be challenged. If an individual must be plucked, let it be done along the line of legal and business principles. Plainly the relation of student to faculty is in the nature of a contract. The party of the first part agrees to issue a diploma at the end of a given time. The party of the second part agrees to devote a legal number of years and to pay a stipulated sum for instruction. Certainly the law can require no more of the student than it requires of the physician and dentist in medico-legal proceedings, viz., ordinary care and ordinary skill.

If the school accepts the student, takes his time and money, and at graduation time refuses to grant a diploma, here is plainly violation of contract on the part of the institution, and in ordinary affairs recompensable. What evidence has the student or the state of the qualification of the members of the faculty as *instructors*? Positively none. Quite to the contrary. Each individual is known to be a specialist in some line of professional money-making. Remedy the evil then by requiring each teacher to present evidence of special qualification for *imparting instruction*, and you will have robbed the plucking system of all its ingloriousness and nine-tenths of its victims.

I would not place myself on record as being in favor of wholesale graduation of incompetent men. On the contrary, I am in favor of reducing to a minimum the number of students entering on a professional career, who by make-up, deportment, address and education are unfitted for dentistry or medicine. This could be done by an educational board and paid for by the state. Far better would it be to inform the applicant that, in the judgment of the board, he is specialized by nature more in the direction of shoveling sand than in the line of making artificial teeth. If, however, the individual chose to act on his own judgment in the matter, and failed to pass the examination, then the institution would be free from the odium of non-fulfilment of contract.

Another monstrosity which I desire to cite is a hybrid, called in school parlance a pony. This monstrosity is the illegitimate

offspring of a sire known as a quasi teacher, and of a dam known as the American boy. Let examinations be made practical, let lectures be made concise, clear and comprehensible, and the pony will soon be a thing of the past.

In times of reverie and forgetfulness—we all have just such times on these occasions—I see three great schools, (1), the institution of the past; (2), the one of the present, and (3), the ideal school of the future. I see the first giving didactic instruction only; her students do well. I see the second doing all this and saying to her students, "Go, make so many bridges, fill so many cavities;" her students do better. I see the third giving less didactic instruction, but methinks I hear her say, "Come, let us work together;" her students make in minimum time maximum attainments.

Mr. Toastmaster, I realize, as do you, that after-dinner speaking is the science and art of saying something in no time at all, while on the one hand we strive not to bore our hearers and on the other studiously try to say something witty, so if you will permit me, sir, I will call your attention to my Shakespearian qualities in *A Hen's Soliloquy*, the soliloquizing party having reference to the gallinaeceous genus and not to "hen medics:"

A HEN'S SOLILOQUY.

There was a brood, hatched in a pen,  
Nurtured kindly by a hen,  
The chicks they numbered one, two, three;  
They were web-footed as they could be.

To one she said, "Darling sweet,  
Brown thy breast, classic thy feet;  
Be not imprudent, gone on whim,  
Venture not out—learn to swim."

Goosie one, its mother's pride,  
Swam on dry land—later died;  
In soliloquy, mother would say,  
"Theory alone, you've gone to stay."

"My second, dear, this warning take,  
Venture out on yonder lake."  
Web-foot heeded—a clumsy lander,  
Made a success on lake Michigander.  
In soliloquy, mother would say,  
"Theory and practice have come to stay."

"Now my last, I'm growing old,  
Come with me before we're sold;  
Together we'll swim waters wide,  
Return at eve on Luna's tide."

Together they launched,  
The journey they made,  
The mother became weary,  
But goosie it staid,  
In soliloquy, mother would say,  
"Clinical teaching, you ought to stay.

The mother still wonders  
To this very day,  
What's keeping her darling  
So long, long away.  
But goosie found company  
On Michigan's pool,  
And is now a chemist  
In a gallinaceous school.

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### THE DENTIST ABROAD.

Delivered at the American College Alumni Banquet, April 4, 1895.

By M. KRAUS, D. D. S., LATE OF THE IMPERIAL HOSPITAL IN VIENNA.

LADIES AND GENTLEMEN:—Ever since I have been conscious that I possessed five senses I have been a student. I have followed the study of the natural sciences with a special love, and especially the most beautiful and noble of these natural sciences, namely, medicine and dentistry, and I believe that as long as I live I shall remain a student, for neither in medicine nor dentistry does study ever cease. In natural science there is no limit and in all nature the greatest creation is man, and his organs are unsolved mysteries, and they will always be the source of further investigation. The great anatomists Hyrtel, Zuckerhandl and Egly, and the pathologists Rokitansky, Virchow and Wedel realized that it has not been possible for them to reach the uttermost limits in the sciences of anatomy and pathology.

The history of the development of dentistry as a science is probably well known to all of you, my colleagues, and as my theme must be handled briefly I shall not go over it at this time, but will call your attention more directly to the conditions of the

study of dentistry in Vienna, the capital of the East, from where I came, and where I devoted a greater portion of my life to the study of dentistry and medicine. Vienna is known among Europeans as the centre of science, art and music. The medical faculty, known as the Imperial Royal Faculty of the University of Vienna, has always been known and is at the present time recognized as the best in the world; hence from all parts of the world there is a pilgrimage of the sons of Esculapius to this faculty to listen to their lectures and to attend the great clinics of these renowned professors, and to take advantage of the immense clinical material that is presented in this great city. Among the numerous students it is my pleasure to say there is always a large number of intelligent Americans.

Whoever desires to enter upon the practice of dentistry in Austria or Hungary must possess, according to the laws of that country, a diploma giving him the title of Doctor in the entire healing art, and this is, of course, the degree of doctor of medicine from the University; when he possesses this he is entitled to select any of the specialties of medicine and among them that of dentistry. The privilege to become a student of the medical or of any other faculty in that country is obtained after satisfactory proof has been rendered that the person's character is above reproach; that he is not under twenty years of age, and that he possesses the necessary preliminary scientific education. The doors of the University are closed to anyone who cannot prove that he is in possession of what is termed a "certificate of maturity," or a certificate of ripeness; in other words, a certificate which proves that the holder has obtained sufficient education and knowledge that he may be able to fully comprehend any of the sciences that may be taught in the University. Such a certificate can be obtained only after having attended eight years at the gymnasium, and after having passed satisfactorily the examinations in all of them. This course of study is equivalent to the Bachelor of Arts degree in this country. These eight years of gymnasium study mean that the student has spent eight full years, that is, the courses in summer and winter at the gymnasium, these being preceded by four years of study in what would correspond with your normal schools. Only after he has passed through this severe ordeal is he entitled to present himself for examination for a certificate of

maturity, and when this has been satisfactorily attained he is entitled to enter the University; hence in our country it is impossible for a farmer, carpenter, cigar-maker, car-conductor, school-teacher or drug clerk to enter from any of these occupations directly upon the study of dentistry or medicine, a condition which is unlike that in this country, where it is possible to become a dentist or physician after having attended lectures for three courses of six months each. In Vienna medical students must take five full years which are divided into ten courses; then after that a year is spent in completing the examinations, and when these have been successfully passed it is essential to enter some of the great hospitals for several years as a practitioner, and there to obtain the necessary practice before he is considered fit to treat the patients in private practice. If one selects dentistry as a specialty it is necessary, in addition to the above course, to attend the department of dentistry two years and to take one course in technics, or he must become associated with a first class dentist and learn the technical and operative branches.

After what I have just said you will come to the conclusion that in our country medical students receive an excellent education, and therefore that our medical men are thoroughly educated in medical science, both theoretically and practically. Although we have at the present time a Royal Imperial Dental Institute, which is arranged in first class style and at whose head we have one of the most scientific and able dentists, and although it possesses a number of excellent teachers, I must admit that the dental education is not as thorough as it might be. This fact is known as well to the profession as to the laity, and hence the best field for the education of a dentist is well known to be this country. Although America is young, it is an admitted fact that the Americans are at the head of dentistry, and especially is this so in the technical branches. They are in advance of Europeans to an extent which it will be difficult to attain in a short time. Also, in scientific branches Americans are entitled to a great deal of credit. It was an American dentist who first administered anæsthetics to allay pain during operations upon the human body, and thus humanity the world over is deeply indebted to America. This invention alone has raised Americans in the estimation of all Europeans. Lecky, in his history of European morals, says:

"It is probable that the American inventors of the first anæsthetics have done more work for real happiness to mankind than all the philosophers from Socrates to Mill."

The dental engine, the rubber dam, etc., etc., all came from America. These are the reasons why I have come some thousand miles and have stinted neither time nor money to become thoroughly conversant with the science and art as it is practiced in this country. This is also the reason why the thorough Americans who go to our countries are always in great demand, and their skill and ability are recognized to the extent that many of them are employed at imperial and royal courts and by the aristocratic in general. That they have secured many marks of esteem for their scientific attainments, and that they have secured an easy competency more quickly in our land than our own natives is readily accounted for by the fact that they give better service, and therefore receive better remuneration. They are also protected in a measure because the doors are closed to humbugs by the laws of the respective governments.

When I return to Austria I shall endeavor conscientiously to introduce and to freely give to my colleagues what I have learned here of your art and science. The seed which has been sown shall bring forth good fruit, and I shall lose no opportunities to herald to the world the good qualities and thoroughness of the dental colleges of America.

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The Treatment of Syphilitic Mucous Patches.—Ohmann-Dumesnil (St. Louis Med.-Surg. Jour., 1894, LXVII, p. 137).

According to our author, the best remedy for mucous patches is chemically pure nitric acid. It is to be applied by means of a little "wooden paddle," about one-quarter to one-eighth of an inch broad, and thin in proportion, with a handle about the length and thickness of a lead pencil. The patch is to be swept over with the paddle, when it will at once turn white, the healthy membrane remaining unchanged. If there should be a fissure in the mucous membrane, the narrow end of the paddle can be inserted into it. It is not a painful application. The patient should be instructed to breathe out while the application is being made, so as to avoid inhaling the fumes. If extensive areas of mucous membrane are involved, the atomizer must be used with a solution of bichloride of mercury 1 to 500. It is well to lower the dosage of mercury by the mouth when this is used, as some mercury will be absorbed from the spray.

## Digests.

*The Dental Register for May, 1895.*

"The Origin of Pathological Tendencies," by James B. Hodgkin, D. D. S. The writer says that although man can never know the secret of life, yet he still hopes to find that which makes him what he is. Of all nature's constancies, nothing is so persistent as type. Moving within certain lines and developing within certain channels, nature is, with but slight deviation, one. The man of today is wonderfully like his ancestor, the savage; so like that we are puzzled to know if the skull we dig up was buried one hundred or one thousand years ago, and mentally this is more true than we are willing to confess. Reproduction, not creation, is man's mission, and reproduction within certain well-defined limits. In reproduction man has been allowed to reproduce not only his individuality, physiologically, but in some degree his abnormalities and weaknesses. With the two forces operating—one strictly enforcing the type, and the other causing, within certain limits, physiological deviations from that type, there seems to me to be a *third* or possibly a modification of the second force. Pathological conditions, or rather the tendency to pathological conditions, seem as strictly inheritable as physiological ones. That constitutional bias by virtue of which certain diseases are likely to be developed seems to be as much an inheritance as symmetry of form. When a man is always in a hurry and always nervous, we charge his hurry with making him nervous, but really it is his nervous force that makes him hurry—and this he inherits.

If we grant that constitutional tendencies are inheritable and inherited, the question arises, in what way? William Hunter said that in a life spent in a lying-in hospital he had never seen a case in which the birth-marks, where they existed, corresponded with the mother's expectations. A widow, remarrying, will bear children like her first husband; a female of any species receives from her first sexual contact an impress that persists through many successive pregnancies. Some mysterious stamp is made on the nervous system by this first contact, that modifies in an



obscure way many succeeding pregnancies. We must look to the moment of conception for pathological tendencies no less than physiological stamp. Such a theory relieves us from the necessity of believing that man is the creature of circumstances, and of the numberless accidents and impressions of intra-uterine life; it shows beyond doubt that in this way, and this way only, can the type be preserved. It relieves us from the necessity of accepting the doctrine that teeth can be starved in an otherwise well-nurtured body; and that, save in the case of accidental interference with nutrition, as in the case of an eruptive fever, or the pitted and semi-lunar markings of syphilitic inheritance, they are molded in the form and after the style of their ancestors. Man's nature clings to type with great tenacity, and environments have not much modified that great fact. In the light of this basal theory we see how semi-pathological conditions by heredity become constitutional, and transmit themselves by one swift act to their ancestors, and by the individuality of primal stamp become a part of the person. Weak teeth, weak eyes, weak lungs—any weak organ is transmitted, and as pathologists we must fight the weakness.

"The Present Needs in Dentistry," by J. Taft, D. D. S.; read before the Mississippi Valley Dental Society, April 17, 1895. The writer says that the greatest need is a lack of proper appreciation for dentistry as an honorable and useful calling. The dentists themselves are greatly to blame for this lack, since he who practices his profession chiefly from a mercenary motive does not, either in action or words, honor it as he ought, nor is he capable of exercising the desired influence upon the public as he could under the stimulus of noble motives. As most students who enter the dental colleges have very crude ideas concerning true professional status and honor, those who have the student's professional education and training in charge should correct such false conceptions. Why should not he who is helping the student in preparation for his life work, do all he can to make that preparation as complete as possible; not only store his mind with the knowledge of principles and train his fingers to the highest manipulative skill, but also give him such ethical training as will best prepare him for a successful career? This is often as much

dependent upon deportment and correct manner as upon knowledge and skill.

Every dental college should have a museum fully furnished and supplied with every preparation serviceable for illustration in teaching; preparations of the natural organs, as well as enlarged models of the same are indispensable for the full presentation of many subjects. There should also be a good library embracing all the standard works on the science and art of dentistry, a complete series of the dental journals, and the published transactions, so far as attainable, of all dental societies. More attention should be paid to the study and teaching of hygiene—the laws of life and health. While the highest skill in treatment of diseases should be exercised, it is not as important as the ability to ward off and prevent recurrence of disease. The text-books used in dental colleges should be prepared more with reference to the needs of the students than the general practitioners, as the latter rely more upon the periodical literature for their reading matter. There should be more harmony and unification in modes of teaching, and in requirements. Some progress has been made in this direction, but there is still much room for improvement.

*The Ohio Dental Journal for May, 1895.*

"Hyperimic Pyorrhea," by D. Genese, Baltimore, Md. The writer instances a case of a lady who had been under treatment of her family physician for six weeks, and as she was getting worse, he, as her dentist, was called in. She had a high nervous fever, consequent on the condition of her mouth, which previous to this ailment had been perfectly healthy and clean. Now it was filled with a slimy exudation from the gum margins, so that both upper and lower teeth were completely hidden by it. The teeth were all loose from mercurial treatment. On lifting the gum margins from the teeth, they were perfectly white and free from tartar or other irritating causes. The writer put her on fish diet with saline aperients to eliminate mercury from the system, and as a local treatment prescribed:

Tannate glycerine .....	½ oz.
Boric acid.....	grs. xx.
Tinct. pyrethrum.....	2 dr.

There was much improvement before a week, and no recurrence of the trouble.

"The Use of the Turning Lathe in the Dental Laboratory," by G. W. Woodborne, Urichsville, O.; read before the Tuscarawas Valley Dental Society, January, 1895. The turning lathe is very useful in repairing tools and instruments, and in making new appliances. When you have a broken plate to repair, you can put an inverted cone bur into the chuck and drill out all of the necessary parts in half the time it takes to file them out. Holes can be drilled in anything. Solder can be milled off old gold plates or out of crowns. Any piece of steel can be put in the chuck and turned or filed down to suit you. You can make all of your polishing lathe chucks out of wood or steel, for your sand-paper, felt, corundum, in fact all of your grinding and polishing pieces, all handles, etc. After you have once owned a good lathe you will consider it indispensable. It will take the place of the burring engine in that class of work that takes side pressure, and is such a detriment to hand pieces.

"Hints," by C. J. Hand, D. D. S., Romeo, Mich. *Forming an air chamber for upper dentures.*—It is my rule to carve same in the impression, following the form of ridge. The pouring of the model gives the air-chamber mold in plaster; unequalled for obviating all the accidents consequent in use of lead or other metals pressed upon the model. The rubber cannot flow under and prevent close adaptation of plate to the roof of mouth. A small spoon excavator run around the edge of air-chamber will give a little raised ridge on the plate that greatly facilitates a speedy suction. This style of chamber can be made very shallow, which I consider the best. \* \* \* *A separating medium that imparts a smooth glossy surface to models.*—Coat impression with very thin shellac varnish, just enough to color the plaster. Then coat with a varnish made by dissolving gum sandarac 3 parts, gum elemi 1 part, in pure alcohol. Must be thin enough not to form bubbles when applied with soft brush.

"Painless Dentistry," by E. H. Raffensperger, D. D. S., Marion, O. The writer thinks that something should be done to stop the wholesale extraction of teeth which should be saved, and

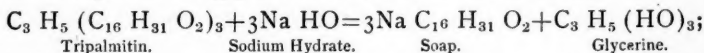
which would be were it not for the painless craze. The dentists will have to preach the salvation of teeth as never before, for, at the rate teeth are going now, it will be only a short time until the American people are toothless. The dental journals could start a reform movement that would be endorsed by the dentists all over the land, by refusing to advertise secret nostrums. It is inexplicable how an educated dentist can ever use in his practice any compound of which he does not know each and every ingredient, and any one who will inject into a person's gums something he is not fully acquainted with, is little better than a criminal.

*The Pacific Coast Dentist for May, 1895.*

"The Treatment of Putrescent Pulp-Canals and Resulting Lesions," by Joseph D. Hodgen, D. D. S., San Francisco; read before the San Francisco Dental Association. The writer says that as every dentist of average practice has many of these cases to treat, as most of them cause much suffering—nervous disorders, indigestion, etc., and as usually they receive poor treatment, more attention should be paid to an accurate and scientific diagnosis. The conditions and symptoms met with in troubles arising from absence or death of the pulp are as follows: *1st.* A dead pulp in a partially putrescent state, having an unobstructed communication with the external air, or the desiccated, tanned or preserved condition known as the mummified pulp, with either external communication or hermetic encasement. *2nd.* A dead pulp associated with an acute inflammatory condition of the pericemental membrane, with or without an acute alveolar abscess. *3rd.* A dead pulp resulting in a chronic inflammatory condition of the pericemental membrane, with a chronic alveolar abscess. *4th.* A dead pulp resulting in an alveolar abscess, from which there is a fistulous tract opening upon either wall of the alveolus and penetrating the soft tissue enveloping it.

The first case is the most difficult to contend with, yet it presents the most hopeful characteristics. The patient has probably suffered no inconvenience and the operator may cause the first disturbance, which is likely to be serious. The absence of any inflammation makes cleanliness and thorough antisepsis all that is necessary preparatory to the final filling of the canal, and the intrusion of any instrument beyond the apical foramen is a serious

error. After adjusting the dam all the debris should be removed by a thorough irrigation of the cavity and canals with a tepid two per cent. solution of carbolic acid. After drying, the canals contain the decomposed products of albumin ( $C_{72} H_{112} N_{18} SO_{22}$ ), water, the salts common to the blood, and other incidental compounds. The decomposed albumin requires attention, for in it putrescence and decomposition principally take place, resulting largely in fats and fatty acids. Of these latter palmitic is especially active, and forms with the glycerine a compound natural and abundant in human fat, tripalmitin. Therefore, nothing is more useful, or more scientifically indicated than a strong solution of the dioxide of sodium ( $Na_2 O_2$ ). With this a saponaceous compound and glycerine is formed on the one hand—



and on the other, by free and active oxygen uniting with the noxious compounds remaining, such as carboretted and sulphuretted hydrogen, we have harmless gases in their stead, namely,  $SO$ ,  $CO_2$ , and  $H_3 N$ ; furthermore, the bleaching and antiseptic properties of oxygen establish an excellent condition of purity and cleanliness. The striking smell of soap shows the reaction, and gases are evolved from the solution in the cavity. The tissue and accompanying tubuli may be removed with a barbed broach from the sides of the canal. After several washings with the carbolized and dioxide solutions the canals will be perfectly clean, and should be thoroughly dried, then cotton dipped in an antiseptic and carried to the apex, and the cavity filled with gutta-percha. At the next sitting the cotton is removed, the canals washed with a strong carbolic acid solution, perfectly dried, and filld. At both sittings the gum tissue over the teeth next the affected one is cautiously painted with an equal part of the tincture of aconite and iodine.

The second case differs little in treatment from the first, except instead of using an antiseptic for the cleansed canals, they should be as dry and clear as possible, with the crown cavity hermetically sealed. The reason for this is to attract by capillarity any pus that may be present in the apical space. The gum near the tooth should be painted with a rubefacient, and if the patient suffers much pain he may take a cathartic at bed-time. At next sit-

ting the canals should be washed with an antiseptic, dried and then thoroughly treated with dioxide of hydrogen until no effervescence is noticeable, then wiped, dried, and dressed antiseptically. If there has been no disturbance, and no indication of pus is observed at the next sitting, the canals may be filled.

In the third case, as in the others, perfect cleanliness is demanded, and can be obtained with the solution already mentioned. If the canals are very purulent after the debris is removed, place a little powdered dioxide of sodium in the cavity and add a drop of water, working it down into the body of the putrescent pulp. The cleansing is very effective, but care should be taken not to pass through the apical foramina. When the canals are cleansed and dried, an antiseptic solution may be broached through the foramina, if found free, into the blind abscess, and a 15-per-cent. solution of the dioxide of sodium may be driven into the abscess sac. After drying the canals they should be worked until no pus is present, then be finally dried and antiseptically dressed. The same should be followed at the subsequent sittings until the abscess sac is entirely free from pus and no sepsis is noticeable. The soft tissues should be treated to a rubefacient.

The fourth case should have the same general preliminary washing and drying as the others. All infected dentine should be removed, and free access to the pulp-chamber and canals secured. After drying the canals, syringe an antiseptic through each into the abscess and out the fistulous tract; any obstruction can usually be removed with a broach, or by means of the sulphuric acid treatment. When the canals, abscess, and fistulous tract have been well irrigated, all septic matter removed, and the canals perfectly dehydrated, moisten canals well with oil of cassia, volatilize and force it into tooth-structure with hot-air blast, dry canal, and it is ready for filling. But if a partial denudation is suspected of the end of the root, occasioned by the process of suppuration, or carious bone surrounding the root, defer filling for a week, simply dressing canal antiseptically and sealing. If carious bone is suspected, enlarge the fistulous opening and remove all the carious structure possible, then to dissolve remaining carious portion, wash out cavity with aromatic sulphuric acid, which also stimulates the parts to a healthy action, favoring granulation. Dr. W. J. Younger strongly recommends lactic acid for this purpose,

claiming that it is a solvent of the lime salts forming the lactate of lime, and that it is much less disagreeable to use. When the pericementum has returned to its normal condition, the canals may be filled, leaving the carious tract for further treatment, which depends entirely upon the removal of the carious tissue; when that is removed the cavity formed must be induced to fill with granulations from its depth outward. This is best accomplished by packing lightly with an antiseptic gauze, or a wax plug from the inner end of which a small amount is cut off as the cavity fills.

“Carelessness in the Construction of a Denture on a Base of Rubber,” by Charles Boxtton, D. D. S., San Francisco. In the construction of a vulcanite plate a great lack of care is often shown in the following respects: When the impression is not perfect many think it can be restored with wax on the model carved to correspond to the mouth. Shellac varnish is often used so thick that it forms a skin and blurs all the finer lines of the impression. When separating impression from model the knife is frequently forced into the face of the model, or portions of the plaster ridge cut away; the model may also have air-holes in it; still it is considered good, and a base-plate is placed in position with a wax rim attached. This base plate will often fit the model reversed; so that a correct articulation cannot be obtained. \* More judgment should be shown in the selection of teeth, copying the remaining natural ones as much as possible. \* Too much wax is often used in waxing up, making more work. \* After removing from articulator the case is flaked high, the teeth coming in contact with upper cap of flask, or to one side, making the plaster investment weak at certain points; allowing oil or wax to coat the teeth, causing them to drop from investment when the flask is separated. Wax is allowed to remain in sections of the flask when packing, thus destroying the integrity of the rubber. \* Packing instruments, pan used for softening rubber, fingers and bench are often covered with plaster and grease, coating the rubber and making the perfect union of pieces impossible. \* The sections of the flask are brought together too rapidly, displacing teeth and breaking model. \* All cases are vulcanized at the same temperature and for the same length of time. \* Remov-



ing from vulcanizer and flask before the case is perfectly cold, changing shape of plate and breaking teeth by a too-sudden contraction of rubber. \* Finishing plate roughly, allowing it to extend beyond its proper limit and not having it of uniform thickness. \* \* \* *Simple method of preventing dark joints.*—Grind gum sections to fit closely, and, just before removing model from articulator, remove every other block and touch the joints with a little oxy-phosphate mixed thin; then replace the block and wipe off surplus cement. Thus you use very little cement and have a perfectly sealed joint. \* \* \* *To prevent porcelain teeth becoming loose in partial vulcanite work.*—When making plates where the teeth are scattered we often find one or more porcelain teeth quite loose, owing to the contraction of the vulcanite. To prevent this bend the pinheads from each other, forming a wedge. To prevent pinheads showing through finished plate bend them down towards face of model.

"Dental Jurisprudence, Negligence," by H. R. Wiley, A. B., San Francisco. Negligence is fairly defined as "Failure to do what a reasonable and prudent person would ordinarily have done under the circumstances of the situation, or doing what such a person would not have done." The law recognizes the existence of three degrees of negligence, viz.: slight, ordinary and gross. Mr. Story defines slight negligence as the want of great care and diligence; ordinary negligence is usually defined as the want of ordinary care or diligence, and gross negligence is the want of even slight care and diligence.\*

The dentist may possess the highest degree of skill known to the profession yet be no less liable for injury resulting from his negligence in the treatment of a case, whether through carelessness in performing an operation or, having undertaken the treatment of a case, through failure to administer such remedies at the proper time. The question as to whether or not the defendant has been guilty of negligence must be determined by the jury from the evidence in the case. Where it has been proven that injury to the plaintiff has resulted from the negligence of the defendant, "that others acted in the same way as he did," is no defense for the latter. Nor will the fact that the services were gratuitous relieve the wrong-doer from liability.

Contributory negligence is a good defense. If, on the trial of the case, it be proven that the plaintiff by his own negligence aided directly in producing the injury, he cannot recover damages. A Massachusetts Court said: "A patient cannot recover, either in contract or in tort, for injuries consequent upon unskillful or negligent treatment by the physician, if his own negligence directly contributed to them to any extent that cannot be distinguished or separated." That, "in an action for negligence, the plaintiff's concurrent negligence is a complete defense" has been held in numerous cases, and is a familiar and well established principle of law. It is probably true that in the majority of the cases that are commenced against dentists to recover damages for injuries alleged to have resulted from negligence on the part of the defendant, the plaintiff himself has directly contributed to the injuries complained of and ought not to recover. Many patients contribute to their own injury by remissness in the matter of observing the directions laid down by the physician, and many more develop injurious tendencies from otherwise healthful conditions, by reckless exposure or neglect to follow the simple and ordinary rules of health, while they are being treated. Mr. Reh fuss, in his work on Dental Jurisprudence, cites as an example: "If, in the treatment of an alveolar abscess, the patient neglected to follow the dentist's advice in every particular, and adverse results should occur, such as a fistulous opening of the outside of the cheek, no suit could be successfully maintained against the dentist." In an action for damages for injuries alleged to have resulted from negligence on the part of the defendant, the plaintiff must prove the negligence; and, on the other hand, if contributory negligence be offered as a defense, the defendant must prove to the satisfaction of the court or jury that the plaintiff by his own negligence directly contributed to the injuries charged,—neither will be presumed.

*Items of Interest for May, 1895.*

"Method of Lining Rubber Plates with Aluminum," by Thos. R. Pixton, D. D. S., Philadelphia. It is sometimes necessary to line rubber plates with some metal, and as gold is too expensive for many patients, something must be substituted. Aluminum, 28 gauge, is very satisfactory. First anneal it with a blow-pipe.

by blowing a slow, broad flame till the metal becomes white, like unburnished silver. If heated to a red heat it will burn and become worthless. Now take the cast which must be hard and dry, place the aluminum on it and press the metal down in the cast with your thumbs. Then burnish it in shape with the handle of a bone tooth-brush and, with soap and water for a lubricant, in a few minutes you can burnish the whole palatal surface to shape. Anneal again. Hold the plate well in the cast and commence to burnish from the palate on the top of the ridge. In either hammering or burnishing commence from the center and stretch the metal to the outer edge, otherwise you get folds that will be hard to remove. After having the plate well burnished on the palate and ridge, hold the plate firmly with your fingers and commence folding over a little at a time and even all round to prevent folds. With a little practice and patience you can make a very close fitting plate equal to being swedged. Now prepare it for adhesion to the rubber, which is done with a sharp enamel chisel. Hold it at an angle of about twenty-five degrees and make an incision a thirty-second of an inch long, turning up the metal in the form of a hook. Do this all around the edges and over the palate. Then cut around in the opposite direction, forming a double hook; these are small but quite sufficient to hold the rubber. Now anneal the plate for the last time to make it soft, so that if it is not a perfect fit the pressure of the rubber while screwing the flask down will force the metal tight all around the cast and make it a tight fit. Set the teeth up on wax, and proceed in the usual method, as in making a rubber plate.

"Luxation, or the Immediate Method in the Treatment of Irregular Teeth," by George Cunningham, in *World's Dental Congress*. When an erupting permanent upper incisor has become twisted on its long axis, so that its mesial and distal surfaces assume a labio-palatal direction, and its cutting edge is proximately at right angles to the opposing tooth of the lower jaw, it has been the practice of several English practitioners to treat it by what is termed "torsion." This operation consists of grasping the tooth near its neck with a suitable pair of forceps, the beaks of which have been guarded with sheet lead or some other substance to prevent injury to the enamel, and then steadily, but

forcibly, rotating the tooth within the socket in its normal position.

Though some teeth so treated have been lost by putrefaction of the pulp and abscess formation, or by necrosis and absorption; there is ample evidence that the operation has been completely successful in a sufficient number of cases to warrant the operator continuing the practice under such circumstances as the patient being unwilling or unable to undergo the slower method of rotation by mechanical appliances.

It is evident that an important factor in their treatment must be the particular stage of root formation. The rotation of such a tooth for a young patient where the root is incomplete, and therefore attached to the surrounding tissues by the solid cord of tissue filling up the funnel-shaped root, must differ materially as to conditions from the rotation of a similar one with the fully completed root, where the central soft tissue connection must be filamentous rather than cord-like. I am not aware of any reliable statistics which indicate that the operation is more practicable in one case than the other, nor what are the reasonable prospects and percentage of success. In my own practice I have, therefore, always adopted slow rotation by mechanical means, and quickly succeeded.

The fact that immediate rotation has been successful, coupled with the knowledge of the extraordinary repair which takes place in fracture of the jaw even accompanied with complete dislocation of the teeth, induced me to resort to luxation in the treatment of irregularities where ordinary treatment was not applicable. In the course of my papers and discussions on implantation, I have suggested that this artificial production of a fracture of the alveolus is appropriate in some cases, and possesses the advantage of enabling me to move a tooth in a new position without separating it from its attachments to periosteum and the socket.

"Teeth of Cliff Dwellers," by Dr. J. W. Greene, Trenton, Mo. The writer says that a short time since he examined the skulls and mummified bodies of twenty-six men and women who, it is said, lived in the cliffs of Arizona and Colorado over five thousand years ago. There were only three characteristics in the teeth different from what would be seen in the same number of people now. In all but three cases the lower jaw protruded so as to

bring the front teeth in direct occlusion, and give them the appearance of "double teeth all round." In all these mouths there was but a single instance of caries; which was on an anterior proximal surface of a first upper molar. But "chemical abrasion" was present on the occluding surfaces of more than half of all these teeth. The maxillaries were so short in most of these cases that the second molar reached their full length, and the wisdom teeth were yet hidden in the bone, never having been cut.

To support a presumption that these people lived on vegetables, there was no implement of the hunt found with them, though packages of seeds of different kinds were; and among them, pumpkin seed and Indian corn, identical with that of today. But while these people knew nothing of metal for tools or weapons, they were up in some of the evidences of civilization. They had the lost art of weaving, not knitting, seamless water bags and baskets with picture designs in, not on, them, of the lint of the Mexican soap weed. One woman seemed to have been a worker in hair, as she had with her a number of sample rolls of various colors.

"To Make Dies for Small Cases without Moulding," by Dr. D. W. Barker. In brief, the method is to cast the dies directly on the model, which may be easily and quickly done, thus:—A plaster impression being taken, a plaster model is obtained. With the tip of the finger dipped in powdered soapstone rub the model till smooth; build a wall of moldine, potter's clay mixed with glycerine, half an inch high around the model, covering the teeth and all parts not to be covered by the plate; the parts to be covered by the plate will then be at the bottom of a well with sloping sides; in this well pour lead until it is even full; the lead should be poured just before it begins to cool; separate this lead counter from the model, and around it build the wall of moldine as before, leaving exposed only the surface to be covered by the plate; with a ball of cotton held in the pliers and dipped in powdered soapstone, dab the surface of the exposed lead till it is covered by a film of the fine dust; in the well thus formed pour fusible metal, separate and swage as usual. By this method no time is lost making sand molds, varnishing casts and waiting for them to dry, and the results will be found exact and satisfactory in every way.

*The Chicago Tribune, June 9, 1895.*

Character Read by the Teeth;" copyright, 1895, by Hazel Dell. It is impossible to conceive of beauty in either a man or woman without a set of regular, white, well-shaped teeth, and a woman stands or falls by the beauty or defects of her teeth. De Bay, a well-known authority on the hygiene of beauty half a century ago, says: "I have never known a man or woman willing to live with a mouth full of diseased and rotten teeth who was worthy of trust. I consider it perfectly proper to regard all such persons with extreme prejudice, and the result of years of careful study is that decayed teeth covered with tartar, with the diseased gums, which always result from the putrid condition of the mouth, are a never failing indication of a culpable disregard for decency and cleanliness. I have never known a man or woman with rotten teeth and reeking breath who could be relied upon to tell the truth, to guard a confidence, or to maintain a trust—they are moral as well as physical slovens. Moreover, every one who is content to live an object of most natural disgust and in such filth is conscious of his or her own infirmity; such people avoid smiling and laughing, and when forced to do so they draw down their lips, having something they wish to conceal. You will find that the people who never smile frankly never live frankly. In their moral as well as physical lives they will invariably endeavor to cover up the moral uncleanness which inevitably accompanies physical filth."

The other side of this picture is a much more agreeable one, and we must all agree that a beautiful set of even, white teeth is of infinite charm. Many and many an otherwise commonplace face has been redeemed by a mouth full of brilliantly white teeth. Monin, the distinguished hygienist, says: "There is nothing in the world so entrancing as a woman's smile when it displays two even rows of pearls. Perfect teeth are compact, regular, smooth, and of pearly whiteness; the front teeth of the perfect set are moderately small. The fortunates who are possessed of such teeth are usually very good tempered. Teeth either strong and well shaped or frail and not perfectly formed are largely ours by inheritance. The law of heredity is indeed inexorable and unto the third and fourth generation one can easily trace the virtues and the excesses of our forefathers. The individual who

is one of a family all with beautiful teeth has usually come into this desirable legacy through two or three generations of healthy, sober, cleanly ancestors all endowed with strong, fine teeth—they have been most attractive when they laughed and they have been aware of the fact and have laughed and been good-natured and frank people of kindly, liberal lives. Three generations of drunkenness, disease, or of dissolute life in almost any form will just as infallibly result in fragile, delicate teeth extremely susceptible to decay and early loss or in misshapen teeth. I have seen this fact corroborated in my own time in the case of a very well known family. The grandfather, whom we will call John Smith, had teeth of most remarkable beauty—perfect, and without decay or loss up to his death at 70. He had been a man of temperate habits and uniform good health. His wife was consumptive and died in her youth, leaving two daughters, both inheriting the beautiful teeth in form and appearance of their progenitor—but not so strong and frequently requiring the attention of the dentist—still noticeably beautiful teeth. One of these daughters married a consumptive—she in her turn became the mother of two daughters, both inheriting the pulmonary disease and both with teeth so frail that though they lived only to the ages of 30 and 32 they had scarcely a tooth which had not been filled. The other daughter of John Smith married a strong man of splendid physique. Her three sons, who are now men, have the most beautiful teeth I have ever seen. They know dentists exist only from hearsay."

Small, short, square teeth, when sound, are indicative of great bodily vigor and strength; they are rarely found in the mouth of an intellectual man. Many very vain women have noticeably long, fragile teeth. You need not look for much force from their possessors. The huntsman looks carefully at his dog's teeth, and selects his canine companion only after such an examination. The horseman invariably looks first at the mouth and teeth in passing judgment on a horse. The condition of the mouth is just as significant in human beings. Long, projecting teeth denote a grasping disposition, especially when great breadth is seen at the upper part of the nose next the cheek. Usually long and narrow side-teeth, commonly called "eye teeth," are the accompaniment of a doglike tenacity. People with these teeth sometimes curiously



resemble dogs when they are angry, and show their teeth just as an enraged dog will—they snarl literally. They will often have long, narrow hands, slender, tenacious fingers, and narrow feet. With a strong under jaw, projecting very slightly, and these long teeth the subject will fight to the death before yielding; with a receding chin the indications are ambition, self-conceit, and failure to really accomplish great things. Very resolute, determined women usually have strongly set teeth, but from a habit of compressing the lips do not display them often. Almost all the men remarkable for energy and strength of will have this same cast of mouth and jaw—notably Napoleon, Luther, Cæsar and Frederick the Great. It is said that nearly all red-headed people have rather short upper lips, rising in the center, displaying the front teeth, and that they are singularly susceptible to flattery and exhibit a great desire for approbation. Men of great resolution have frequently rather large teeth, with a development of the jaw bone in the center amounting to a projection and producing a noticeable fullness there. This characteristic is increased in the subjects who combine it with straight and rather long eyebrows. Arching eyebrows are always a sign of a more easily moved nature.

Small, pointed teeth denote many unpleasant characteristics. When accompanied by near-sighted, round eyes, a pug or snub nose, and noticeably small and sometimes very pretty ears, their owner will be found to possess many catlike attributes. A woman of this type will naturally make the gestures with the right hand about her face and head of the cat with its paw. Tangled teeth, or, as a well-known wag remarked, accidentals, not dentals, resembling the crooked kernels in a badly demoralized ear of corn, are the index of a reckless and unbalanced nature; where they are long and crooked, lapping in and out, they rarely accompany strength and persistency. Long, protruding canine teeth, or tusks as they are commonly called, are read by physiognomists as a sure indication of innate brutality, and a human face with protuberant jaws certainly gives a wonderful expression of degradation and brutality to the countenance. This may easily be proven by changing the mouth in a beautiful picture of a noble face. Enlarge the mouth and make the jaws protrude—the incisors project—and the result is a hideous transformation. Michael Angelo

notably made use of this horrible jaw to produce the absolutely fiendish expressions of his demons in his "Last Judgment." The inconstant teeth are small and even, often brilliantly white, but widely separated; each tooth has a well defined space between it and its neighbor. Usually in men a small nose and weak chin are seen with these teeth; the lips may be well formed, but will frequently be thin, and the mouth in smiling forms an oblique line, showing the glittering white teeth. The possessor is by nature treacherous, inconstant in his affections, and will turn on a woman or attack a weaker man; he will never meet a man of his own size in an encounter, and will stab in the dark or work through a third party.

Henry Irving makes his mouth up after this type for his wonderful Mephisto, and accentuates the cruelty of its lines by the wicked arch to his eyebrows. Ratlike teeth are frequently seen in the human species. They are long, narrow, and sharply pointed. They indicate craftiness, slyness, and accompany a narrow, beaklike jaw formation. Frequently the ratshaped teeth are of a dazzling whiteness. With a receding chin the tendency to ratlike qualities is increased. Malformed teeth may in our day be easily rectified and crooked teeth straightened. Delicate teeth, by great care and proper diet, may be made strong, and, according to many physiognomists, the character of children is changed with the transformation from deformity to regularity and beauty. Thus the child afflicted with protruding and crooked teeth, conscious of its deformity, may become sullen and morose; it knows it is not so welcome as the little one with the pretty teeth. A skillful dentist effecting such a metamorphosis not only accomplishes a wonderful dental improvement, but aids in forming a happy character out of one fatal to be unhappy without his assistance. Prof. Miller, a noted authority of Berlin, gives the following formula as an excellent preventive of decay of the teeth:

	<i>Grams.</i>
Thymic acid.....	0.25
Benzoic acid.....	3.00
Tincture of eucalyptus.....	15.00
Alcohol.....	100.00
Essence of menthol.....	0.75

Pour a few drops of this liquid into half a glass of water and rinse the mouth with the mixture three or four times daily. It is essential to brush the teeth, removing all particles which may have lodged in and between them, before using the above wash.

*The Dental Cosmos for May, 1895.*

"Observations on the Nutrition of the Teeth," by Albert P. Brubaker, M. D., D. D. S., Phila., Pa.; read before the Pennsylvania State Dental Society, July 10, 1894. This paper is not presented with the idea of suggesting any specifics in the long list of foods which would have selective influence on the nutrition of the teeth, but rather with the purpose of emphasizing the necessity of a more intimate acquaintance on the part of the practitioner and student, not only with the physiological processes, but the pathological processes which affect the body as a whole, and of which the changes in the teeth are but special illustrations. This having been done, the limitations and capabilities of foods as modifiers of tooth-nutrition will become somewhat more apparent.

If correctly understood, the views entertained by the majority of writers on dental pathology are that the imperfections of enamel and dentine are attributed to defects in structure and function of the enamel-forming and dentine-forming organs, in consequence of a deficiency of lime-salts in the food-supply. In this paper the attempt will be made to establish the proposition that the imperfect enamel and dentine are due to defective enamel and dentine-forming organs, consequent not to a deficiency in food-supply, but to the operation of extraneous forces which impair the assimilative power of the formative organs, resulting in a failure to retain the lime-salts furnished in sufficient quantity by the ordinary foods. A few words as to the physiological development of the teeth may be of assistance in arriving at correct conclusions. It is well known that the primitive organic basis of both the enamel organs, the ameloblasts, and the dentine organs, the odontoblasts, is that highly complex, unstable compound, protoplasm, consisting of water, albumin, sugar, fat, and inorganic salts. In the performance of its functional activities, namely the production of mature enamel and dentine, it undergoes various disintegrative changes, which if not arrested would result in its

ultimate destruction. This is provided against by the constant supply of nutritive materials furnished by the lymph stream. Inasmuch as one of its specific functions is the formation of enamel and the calcification of newly-formed dentine, it is evident that among the inorganic salts the calcium salts must occupy a prominent position. These are furnished in pre-natal life partly by the calcified tissues of the mother, and partly by the food; in the post-natal life by the mother's milk, provided this be sufficient in quantity and quality. The food-supply being provided for, the evolution of a tooth under the influence of the protoplasm should be perfectly normal; that this is not the case in all instances is evident. The cause of the perverted nutrition is a defect in the character of the protoplasm, due to the operation of some inherited specific influence.

By the term calcification let it be understood also a chemical union, not a disposition merely, between the lime-salts and the organic dentine brought about by the agency of living protoplasm; moreover, let it be borne in mind that calcification once established is not forever permanent, but that living dentine, like living matter in all other portions of the body, in the performance of its functions is continually undergoing disintegrative changes giving rise to waste products which are removed by blood-vessels and possibly lymphatics, and at the same time undergoing integrative changes by the assimilation of nutritive materials furnished by the blood-vessels of the pulp. We conceive, therefore, that the evolution of a normal tooth will depend on the physiological activity of a highly differentiated form of protoplasm, differing somewhat in chemical composition and life duration, as found in the cells of the enamel organ, the ameloblasts, and in the cells of the dentine organ, the odontoblasts.

This being accepted, it inevitably follows that the introduction of an extraneous force, capable of impairing the composition of protoplasm and interfering with the harmonious play of its physiological forces, would result in an impairment in the products of the activity of that protoplasm. It might be in the character of the enamel or dentine and related to density or chemical composition, and this no matter how perfect the food-supply might be. It is not a question of food-supply in the majority of instances, but a question of imperfect protoplasm.

As long, therefore, as some extraneous force is active, so long will there be imperfect tooth-formation. In all instances the problem reduces itself to two classes of factors, viz., extraneous influences and food-supply, the relative importance of which must be determined by the practitioner himself. We have abundant evidence of the pernicious activity of extraneous influences upon the normal activity of protoplasm in the development of the tissues in the syphilitic, the tubercular, the scrofulous, and gouty diatheses. In all these constitutional states the pathological changes in the tissues have no direct relation to the quality of food, but to the disturbance of their assimilative power. In the inherited syphilitic diathesis, for example, the constructive or assimilative power of the protoplasmic basis of the entire body is disturbed or impaired by the syphilitic virus, and, in consequence, there is an impairment in the development of the epithelial tissues, including the teeth, of the fibrous connective tissues, including the cartilage and bones, and even of the muscular and nervous tissues. Under such circumstances the primary object must be the restoration of the protoplasm to its normal status by the removal of the specific influence, not by the employment of any special articles of food, but by special medicinal and hygienic agents. It becomes the duty of the dental practitioner, therefore, to familiarize himself with the protean manifestations of this diathesis as presented in both parent and child, so as to be able by advice, at least, to save a child yet unborn not only from an imperfect development of the teeth, but of other tissues as well; or, failing to do this, to arrest pathological changes as speedily as possible. What has been said of this diathesis is true for all others which leave traces of their presence in peculiarities of the teeth.

There is probably no condition of malnutrition in which particular articles of food containing specific nutritive principles seem more pointedly indicated than that characterized by softening and distortion of the bones and the early decay of the teeth, and which is known as rickets. Here as anywhere lime-carrying foods seem to be the one desideratum, and yet a careful study of this condition soon discloses the fact that the disease is maintained not so much by a want of special articles of food, as by an inability on the part of the protoplasm to assimilate the nutritive

materials furnished it, in consequence of its impairment by extraneous forces.

A brief account of the symptoms and pathology of this disease will make this fact apparent. It usually makes its appearance about the sixth or eighth month of infantile life, less frequently from the eighteenth to the twenty-fourth month, rarely after the second year. In some instances digestive disturbances precede the manifestation of bone lesions. Farinaceous articles of food are imperfectly digested, give rise to acid products, chief of which appears to be lactic acid. Tenderness of the body, slight febrile disturbances at night, profuse sweating about the head and neck during sleep, are symptoms generally present. About the sametime changes in the bones are usually noticed. Nodular enlargements may be distinctly seen in the ribs at the junction of the bones with the sternal cartilages, the shafts of the bones become soft, the vertebræ share in the same process, and, in consequence, more or less distortion in the conformation of the thorax takes place. The articular ends of the long bones undergo enlargement at the junction between the shaft and epiphysis; the shaft also softens. The flat bones of the skull become thickened and softened. To mechanical causes, such as the weight the body and the play of muscles, all the distortions characteristic of this disease are due.

The changes in the bones of the head and face are particularly interesting. The skull is enlarged; antero-posterior diameter is increased; the fontanelles remain open long after the normal period of closing; the parietal and frontal bones are thickened at their centers, forming prominent bosses; ossification is imperfect; the forehead becomes broad and prominent and out of proportion to the face, a condition which is exaggerated by an arrest in the growth of the facial bones, particularly the superior maxillæ and the malar bones. The inferior maxilla is peculiarly modified. The normal curve disappears, the anterior portion becomes flattened; at the situation of the cuspids it bends abruptly backward at a sharp angle, which has been attributed to imperfect growth of the middle portion of the bone. If a section of a long bone be made, evidences of hypertrophy present themselves. The narrow zone of proliferation between the shaft of the bone and the epiphysis, instead of presenting the usual reddish-gray appearance, is greatly enlarged, bluish in color, thickened to the

extent of half an inch, and much softer in texture. The line of ossification is irregular, spongy, and more vascular than in the normal condition. In the shafts of the long bones and on the surfaces of the flat bones a similar hypertrophy exists. The proliferating layer of the periosteum is preternaturally enlarged. The shaft of the bone is covered by a layer of spongy material resembling decalcified bone. Here also the newly-formed tissue is excessively vascular. In this new tissue are found all the evidences of the preparatory stages in ossification, but the decomposition of lime is not followed by assimilation and the perfect formation of bone. The fault appears to be due to an imperfection in the activity of the protoplasm, and indicated by a want of assimilative and retentive power. In addition to these changes in the skeleton, various alterations in structure are found in nearly all the viscera of the body, indicative of some profound defect in the nutritional process.

Various theories have been advanced in explanation of this disturbed nutrition of bones, but none are satisfactory. Among these may be mentioned that which presupposes the presence of lactic acid in the blood in excess, produced by the fermentation of starchy foods in the alimentary canal. The acid circulating in the blood holding the lime in solution prevents its deposition. This, however, is purely theoretical. The inflammatory theory is also without any basis. The highest authority on the pathology of rickets, Professor Kussowitz, believes that the primary lesion is the hyperemia of the cartilage, bone, and periosteum, dependent upon an increase in the size of the blood-vessels. This increased vascularity disturbs the normal nutritive process, and as a consequence the cartilage-cells rapidly proliferate, the surrounding substance becomes softer, and the bone lacks firmness and solidity. The same authority has demonstrated experimentally that a defective deposition and assimilation of lime-salts follows a hyperemic condition. Not only does the increased vascularity interfere with the assimilation of the lime-salts, but favors the absorption of that previously deposited, so that a previously deformed bone will in a short time become soft and flexible. Coincident with these changes in the bones, similar changes are taking place in the areas of tooth-development. Not only are structural changes manifested in the superior and inferior maxillæ, but also in the



teeth. The normal process of dentition may be arrested, and, if the disease develops before the eruption of the teeth, it may be indefinitely postponed. If some few teeth have appeared, further development is delayed. Those teeth which have made their appearance are defective in chemical composition, the relative proportion of organic and inorganic matter is disturbed, the dentine is soft, and the enamel imperfectly formed. Partly owing to the acid fermentation in the stomach and the activity of mouth-bacteria, these teeth speedily decay, become black, and drop from the alveolar process. There is in the majority of cases a hyperemic condition of the alveolar process which stimulates scurvy, and is similar to the hyperemia in the bones. The causes of this profound disturbance in general nutrition are various and complex. Want of sunlight, impure air, prolonged lactation, starchy foods, indiscriminate indulgence in eating, constitute a combination of causes which in a feeble constitution will develop the rickety condition.

The treatment of rickets must be both prophylactic and curative. If the mother, during the period of pregnancy, suffers from the tubercular diathesis, chronic diarrhea, suppuration, or any exhausting or depressing ailment, the greater the likelihood of a transmission of impaired nutrition to the child, resulting in an imperfect development of bones and teeth. After birth, all known factors provocative of the disease should be eliminated. The mother's milk should be examined, and, if defective, cow's milk or some of the infant foods substituted. Fresh air, daily baths, and frictions with sweet oil are indicated.

Of all foods, none has taken so high a rank as cod-liver oil. When the depressing influences are removed, a marked improvement is at once observed after its administration. Phosphorus has been highly recommended by many practitioners. Limestone, the syr. ferri iodidi, and arsenic are also useful. As the child advances in years, all that is required is a continuance of improved hygienic conditions and a plain, generous diet. Bearing in mind the fact that the malnutrition of the teeth is but a single manifestation of a disturbance in the general nutrition, and that the imperfect calcification is not due so much to an imperfect lime-supply as to a want of assimilative power on the part of the protoplasmic basis of the teeth, it does not seem that a

search after a special food is in accordance with the right therapeutic method. The above statement is borne out by the fact that in many rickety children the urine contains an excess of phosphates.

A similar, though of course not identical, loss of lime from the bones and teeth is witnessed in pregnant women. The rapid growth of the young child necessitates a large food-supply. For this purpose the blood vessels of the uterus and associated parts undergo an excessive hypertrophy, the influence of which is felt in the most remote portions of the body. The ossification of the foetal bones necessitates a large quantity of lime. In well-nourished women with good digestion, this is furnished partly by the food and partly by the mother's tissues. But inasmuch as many women suffer during the period of pregnancy from extreme gastric disturbances, both their food-supply and assimilative powers are diminished. Under such circumstances the tissues of the body yield up their nutritive materials for the growth of the embryo. The bones, through a process of vascular absorption, part with a portion of their lime-salts. The pelvic bones and the vertebrae are frequently the first to suffer, though the entire osseous system may become more or less involved. The teeth experience similar changes. The blood-vessels of the pulp, in virtue of their absorptive power, impair the integrity of the chemical union of the lime-salts and the organic dentine, and in consequence the former are carried away and the latter decalcified. It is conceivable that under such circumstances the enamel might feel this absorptive influence and part with some of its lime, more especially from its under surface, and thus become thin and easily fractured. Should there be abrasions of the enamel, permitting the entrance of micro-organisms, the partially decalcified dentine would undergo speedy disintegration. With the birth of the child and the re-establishment of the digestive functions, a recalcification of the bones takes place, and they return to their normal condition of solidity. Could the teeth be kept free from the destructive action of bacteria, and the strain and pressure incident to mastication, they also, there is every reason to believe, would return to their normal condition of calcification upon the ordinary diet to which we are accustomed, and without reference to any special class of lime-bearing foods.

*Journal of the British Dental Association for May, 1895.*

J. H. Badcock, M. R. C. S., reports a case of marked discoloration of a left upper central incisor otherwise sound. The patient, while playing foot-ball some months previous, had the tooth struck and partly displaced backwards. It grew back to place, and beyond the discoloration, which was most noticeable towards the cutting edge, no trouble was experienced.

Dr. Badcock had no difficulty in diagnosing a dead pulp, and proceeded to open the pulp cavity so as to clean it and thus prevent further staining and avert a possible abscess. To his astonishment he found the pulp alive, but as he had gone so far he killed it. There was much difficulty in clearing the root, as there was a great deal of secondary dentine in that part of the pulp chamber which occupied the crown of the tooth, while the root canal was free. Probably the pulp was severely injured, if not severed by the blow, and this injury was greatest at the point where the pulp enlarged in the crown and where most resistance would be offered to a pull. This caused immediate extravasation of blood and subsequent formation of secondary dentine by the irritated pulp. Gravitation accounts for the staining being greatest near the tip. The case is interesting as showing that serious discoloration is not an infallible sign of dead pulp.

*The Dental Review for May, 1895.*

"Mercury," by J. W. Whipple, D. D. S., St. Louis, Mo.; read before the St. Louis Dental Society. The writer says that mercury is one of the most remarkable substances to be found in the whole realm of nature, and that he is tempted to assert that it is the most important of all substances used by the dental profession, and the one with which they could least afford to dispense. While some doubt the value of bichloride of mercury as a germicide and disinfectant, when the intensely poisonous nature of this compound of mercury is considered, no reasonable doubt of its efficacy can be entertained. It will not only, in its various strengths, destroy all germs of every character, but it will also play havoc with perfectly healthy tissues, so, because of the latter reason, something else should be used in its stead in the oral cavity.

Cleanliness is the one great foe of all diseases, whether it be typhoid fever, diphtheria, or dental caries, and uncleanness is the one great cause of all diseases of every character. Therefore, it is better to keep germs out of the mouth than to allow them to grow there and then try to get rid of them. Bichloride of mercury is very good to sterilize all instruments. If, as is said, one and one-half tons of gold foil are annually consumed in the United States in filling teeth, probably fifteen tons of amalgam are used in the same time and way. To prepare this for use requires from three to five tons of mercury. Not to discuss the amalgam question, but amalgam is probably, to-day, preserving ten times as many teeth as gold and all other filling materials combined. Mercury has probably no deleterious effects upon the human organism. It has no affinity for either tooth structure or the fleshy parts of the human body, but it has the greatest possible affinity for tin and silver. In cases of mercurial poisoning the metal collects in the joints of the human body, but this is a mechanical collection, just as it may sometimes be squeezed out in globules in the region of the sublingual ducts by pressure upon the parts with a teaspoon. Silver plates have been destroyed by mercury where persons had been salivated by its immoderate, even criminal use, by physicians. It will therefore leave the soft tissues of the body to unite with metallic silver, and it seems absurd to suppose that it will, of its own free will and accord, leave an amalgam filling with which it has become incorporated, both chemically and mechanically, in a fixed and definite proportion by crystallization and loving affinity, and seek a new abiding place either in bone of tooth or flesh of body. Amalgam fillings will oxidize on all their surfaces, but the oxides formed are small in quantity and harmless in nature.

The constant attrition of the opposing teeth may cause a slow grinding away of the filling and some think that this may sometimes cause ptyalism. Mercurial salivation is caused much more rapidly and certainly by the administration of infinitesimal quantities given frequently, than by larger amounts. If ptyalism could be caused by such means as the wearing away of amalgam fillings, the result would inevitably be that, in this day of the free and constantly increasing use of such fillings, cases of mercurial salivation would become more and more common. But such is

not the case, and cases of ptyalism are very rarely met with now. Cases have been reported where ptyalism has been found in conjunction with the free use of amalgam fillings in the mouth, but these may have been only coincidences. A patient may be coincidentally salivated by the administration of blue mass or calomel, even without his own knowledge, as apparent cases of ptyalism have been met with which were really not caused by mercury at all, and it is doubtful if one case of mercurial salivation can be proven positively to be the result of the use of amalgam fillings.

Vulcanized rubber worn as a base for artificial teeth is doing ten times as much good for humanity as gold and all other bases combined. While black rubber is freely used by the better class of men in large cities, there are probably nine plates of rubber containing mercury as a coloring material in use to one of the black variety. The principal objection to rubber plates has been that they caused the so-called "rubber sore mouth," and that the main agent in causing this trouble was the mercury contained in them. What has been said in regard to mercury in amalgam fillings applies with equal or greater force here. Rubber sore mouth is usually confined to the surface covered by the plate, and usually, too, to only a small part of that surface; in the region of the borders of the air chamber, and across the rear line of the plate where it crosses the harder part of the hard palate, near the centre of the arch. Mercury does not cause disease by mechanical irritation. If so, the globules sometimes to be found in the soft tissues would surely cause a condition in the adjacent parts similar to so-called rubber sore mouth. This disease would also show itself in other and distant parts of the body, since mercury always causes a constitutional disturbance. Rubber sore mouth is a myth. The same condition of disease is frequently seen under black rubber, celluloid, and twenty carat gold plates. It is caused by badly fitting plates which move from side to side in the mouth and irritate the parts. This is aggravated by the rough surfaces of the inner side of the plate, and in all cases is caused more or less by the carelessness and uncleanness of the wearer.

"Porcelain Work in Dentistry," by G. W. Schwartz, M. D., D. S., Chicago, Ill.; read before the Odontographic Society of Chicago. Dental furnaces have been so simplified in the last few

years that dentists can do operations in porcelain which would otherwise be done in gold or rubber, and some work not done at all. All work done in conspicuous parts of the mouth should be concealed; sometimes gold bicuspid crowns look as unbecoming as though they were placed on the central incisors. Porcelain crowns can be made for bicuspid teeth as easily as for incisors and cuspids, and for practical purposes they are as strong as any crown work done.

While dentists unfamiliar with the baking of porcelain regard its chief feature as the making of inlays, they are the smallest part of the porcelain work. The only places where inlays should be given the preference are in cases exposed to front view, where the cavities can be so shaped that direct access can be had for taking impressions of the cavity in thin platinum, for making the matrix in which to bake the inlay. Cases most favorable for this class of work are the labial surfaces of the anterior teeth; buccal cavities on the bicuspid and molars, in cases where it is impossible to get the rubber dam on, and others where the cavities are so sensitive that extensive preparation cannot be endured by the patient. Cases where there has been a recession of the gum, with a cavity on the labial surface of an anterior tooth, can be nicely done by making an inlay and restoring the lost portion of the gum in gum enamel. \* \* It is a rare thing to see porcelain fillings which are as consistent with the accepted theories of preserving carious teeth as if those same teeth had been properly filled with metal fillings. In speaking of fillings, fillings in the back part of the mouth are meant, not porcelain restorations for anterior teeth, and inlays.

There is no more artificial looking work done on the natural teeth than crown work as it is commonly done at the present time, yet crown work is the most important part of porcelain work. It can be applied to nearly every case where any other crown work can, and to a number of cases where other work cannot. Any style of crown one chooses to make can be made by the dentist who bakes them himself. The crown the writer uses most for incisors and cuspids is one made of a porcelain veneer baked to a platinum cap, and the method he employs in constructing it is as follows: For a central, lateral or cuspid, after having tooth prepared, take the measurement in the usual way; then cut a strip of

platinum No. 30 to 32 gauge, the necessary width, and a little longer than the measurement; then lap to the exact measurement and solder with pure gold, festoon and fit to the root, mark the back, and trim out to the original shape of tooth. Solder a platinum backing to this about 28 or 30 gauge. Now grind the front of this cap as thin as possible with a corundum wheel, and burnish it down to the tooth. This cap must be so shaped that it will mechanically retain the porcelain when baked to it. After having the cap completed, which is the most important part of the crown, select a porcelain tooth the correct shade and size, which is ground to a thin veneer. After having first baked some body to the platinum cap, then bake the veneer to the cap which completes the crown.

For bicuspid use a different method. Having shortened the tooth to about one-half or one-third its length, with its buccal wall beveled to the center, fit a platinum band to it about the length of the original tooth. Then cut the buccal wall of this band in narrow strips to about a line or two from the gingival margin. These strips are to be burnished down to the shape of the prepared root. Solder these strips together with pure gold to hold them in place and to give the cap some stiffness. The articulating end of the cap is then trimmed until it is about two-thirds the length of the original tooth. Then proceed to build body on this cap to reproduce the shape of the tooth to be supplied, and bake it. If desirable, porcelain veneers can be used in bicuspid as well as in other cases. The advantage of this crown work over other kinds is, teeth can be crowned over live pulps. Also in some cases where there has been some recession of the gum, a restoration can be made with gum enamel to give the proper length and natural appearance.

Porcelain bridges adjusted to cases where the bite is short and overlapping generally prove unsatisfactory. Bad results have come in cases where facings have been baked to platinum backings. The force of mastication has fractured the porcelain from the backings, and left nothing but the backing and abutments. Porcelain bridges, to be strong, should usually be made with a saddle, and porcelain baked to it. In cases where recession of the gum has progressed to some extent, bake gum enamel to the teeth to be supplied and restore the lost gum, then proceed in the



usual way of bridging. Small spaces can be bridged very well by soldering plate teeth to a platinum bar and baking porcelain on it to restore contour and give the correct masticating surface. Much care and judgment must be used, for a porcelain bridge of three teeth will not be as strong as three crowns, because a root will often move enough in its socket to prevent a porcelain crown from breaking; when it would not withstand the strain in a fixed position on a bridge.

In all the cases described the writer uses high grade body, which requires a greater degree of heat than the bodies used by many for crowns, inlays, etc. The bodies which fuse at low temperature get that quality by having glass as an ingredient, and they are not as strong as high grade bodies.

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One Reason for the Preponderance of Nervous Diseases.—One of the principal reasons, in my opinion, for the enormous increase of nervous diseases, is to be found in the management and rearing of the infant as now and for some time past practiced, especially in the average American families.

It is almost a universal fact that from the hour of its birth to the hour of its maturity the American human infant is constantly subjected to a course of stimulation, so far as the nerve centers are concerned. The young parents, and the older ones, as well as the grandparents and uncles and aunts, each and all are so anxious to have the baby a smart, cute little thing, that every device that can be thought of is resorted to in order to stimulate the child's mental faculties and to have it notice objects as soon as possible; and here let me say that I really believe in some instances they have succeeded in developing that faculty as early as the first few days of life. As it grows older, it is urged by every means known to humanity to talk, to give expression to its thoughts in any possible way or form; and by the time such an infant is four or five years old its nerve centers have been so fearfully developed and overstimulated that it is quite possible for it to give expression to opinions and ideas which would compare favorably with those of maturity. This condition of things is made to ramify every channel of life which it is possible to bring before the infant; and such conditions are continued until the child degenerates into hopeless lunacy from overstimulation, or else "becomes its own master," as the saying is. When such an infant has reached its majority and maturity, it usually comes before the world with a nervous system already wrecked by having been overstimulated and developed, and therefore unable to stand the strain usually demanded from a healthy, well-balanced system.—A. M. Beers, M. D., in *Columbus Med. Jour.*

## Letters.

### A CRITICISM FROM NEW YORK.

NEW YORK, June 19, 1895.

*Dr. J. N. Crouse.*

DEAR SIR:—Through you, I believe, The Dental Protective Association was organized. So far good. All of us who are members of the same think we know all about its purposes. Now is there another business of a private character growing out of this organization? If so, who are these men that have quietly got together and are trying to reap a personal gain through the influence of the Dental Protective Association?

You will pardon me for showing so much ignorance in this matter; I live in this out of the way place, the City of New York. Before I send in an order of any kind I must know something about this matter.

Most respectfully,

HARVEY D. ALLEN.

### A REPLY TO THE CRITICISM.

Chicago, June 23, 1895.

*Dr. Harvey D. Allen, New York City,*

DEAR DOCTOR:—Your letter of inquiry is before me. I have already explained very fully in a reply to a letter from an honest inquirer, much that I would write you now. As you have evidently not read this, to save time I refer you to it in the April number of THE DENTAL DIGEST for a part of my reply to yours. You do know who organized the Protective Ass'n., and you seem to think that all its members know all about its purposes. I am quite sure that you are mistaken in this. It cannot be possible that all or even a considerable number of the members know about its purposes, what it has already done, or what it intends to do. For if they understood much about it, they would give their active co-operation and a much heartier support. Take your own case. What have you done to aid the movement? On referring to the record I find that you have paid

\$10 and signed the by-laws. In return how much has it saved you from annoyance and expense? Did you ever make an investment which yielded greater returns? Think for a moment what our condition must have been but for this Association and then tell me if I am getting the support from the members which the results warrant. When you think what has been accomplished bear in mind that it is the result of great sacrifice, besides time, care and anxiety, given freely and with no money compensation. While the members and the profession at large have been entirely free from the annoyance of patent sharks and claimants, I have been giving up all my recreation and much valuable time besides to accomplish these results. Do you believe me? It you know anything you know that this is true and can easily be proven. It is very distasteful to me to speak of my self-sacrifice, I have carried these cares now for over eight years, and would not mention my part in it now but for such letters as this of yours.

As you close you speak for all as knowing the purposes, but I imagine I hear some of that "all" asking what is wanted of them. As a large proportion of the dentists have never joined with us, I want every member to enter into the work of getting the respectable members of the profession to join the Association at once, and thus save us from the necessity of making the assessment provided for in the by-laws. Next, I want all those who have not already done so, to aid us by subscribing for the DENTAL DIGEST, and by getting others to do the same. I make this part of the request because this journal has been started as the official organ of the Association. While the Association is not made responsible in any way for it financially, the work of the Association is more easily made plain, the expense of sending out circulars avoided, the profession reached more effectually, and this, as our organ, is bound to be a great aid in many ways. I am in hopes the members will help me in this part of the undertaking, as I am sure the journal will be the means of bringing about many reforms and will greatly strengthen our cause. I have here explained at some length what you said all understood, and which I knew was not more than half understood, and that only by a very few members. Now Doctor, earnestly, am I not right?

Now as to your inquiry, "Is there another business of a private

character growing out of this organization? If so, who are the men that have quietly got together and are trying to reap a personal gain through the influence of the Dental Protective Association?" I have no knowledge of any such state of affairs. Living in that out of the way place, New York City, you may not have heard of the organization of the Dental Protective Supply Co., so for part of my reply to this query I will refer you to the front pages of the January DIGEST, headed, "To the Dental Profession." No, Doctor, there are no individuals who have quietly gotten together and are trying to reap a personal gain from the reputation of the Protective Association. The Supply Co. was primarily organized to get those who had not already joined the Association to do so by giving all members such financial advantages in purchasing supplies that no one could afford to hold aloof; and secondarily to do away with the patent abuse on manufactured articles. I personally undertook the responsibility of organizing the Company with the expectation that enough members of the Association would see the feasibility of the plan to furnish the additional necessary capital that I did not give myself, and thus form a true co-operative association. Thus far I have furnished all the required capital, barring that taken by a very few in sums of \$1,000 and less. I have made the proposition, both in public and in writing, that I would furnish as much as all the other stockholders in the dental profession combined, provided that the profession would enter into such an agreement. And although I have been working at this for over two years, giving it the best and hardest efforts of my life, and am now about ready to open supply houses, fully equipped with *the best goods ever offered to the dental profession*, I still hold out that proposition and agree to do as much financially as the whole dental profession. And I agree to do this in the face of the fact that a few business men of my acquaintance offer to furnish all the required capital and to pay me for my services besides.

I see the needs of such a movement so clearly, and realize what it would accomplish for the profession so fully, that I am willing to make such a sacrifice as cannot be appreciated by those who do nothing for their profession, and usually act from selfish motives. The world is full of selfish and dishonest individuals

who never make any sacrifices, yet who never fail to reap any benefits they can from the efforts of others, and at times I am led to believe that the dental profession has its share of such people. Your information must have come from some such sources, or else from interested parties who wish to block this movement as they have all others which had anything in view but the further enslavement of the profession. As to the accuracy of my statements in this communication, and the feasibility of the plans I have worked out, I invite investigation. I should be glad to have the whole matter investigated by a committee of earnest, interested members of the profession, to whom I will explain all the details and then allow them to report their judgment.

Any further information you may desire I shall be glad to furnish, and believe me,

Yours very truly,

J. N. CROUSE.

### LETTER FROM MISSOURI.

CANTON, Mo., June 10, 1895.

*To the Editor of the Dental Digest:*

DEAR SIR:—According to my promise I send you the report of the case I told you about when at Galesburg. As you will see from the enclosed letter I saw the little girl the day previous to Dr. Brainerd, her physician. At that time there was an abscess on the left superior second temporary molar, which I opened with a lance, washed antiseptically, and told the patient to return the second day. Dr. Brainerd's report will give a better idea of the case. Hoping that this will be of service to the readers of the DIGEST, as it has been both sad and instructive to me, I am,

Yours truly,

J. F. WALLACE.

MONTICELLO, Mo., Jan. 1, 1895.

DEAR DR. WALLACE:—In accordance with your request I will endeavor to give you the particulars concerning the sickness and death of the little girl we attended. Her father brought her to me on Nov. 4th, after seeing you on the 3rd. I found a greatly swollen left upper jaw and cheek, the latter so swollen that the left eye was entirely closed. The breath was offensive, the tongue

heavily coated, and a considerable of febrile symptoms. Her condition was so serious, and it being evident that the trouble was an abscess at the root of one of the upper molars, with systemic disorder therefrom, I advised the extraction of the tooth, thinking this would entirely end the trouble. On the 6th her father reported that the swelling was still increasing in face and jaw, and that the fever seemed higher. I prescribed an antiseptic wash for the mouth, antifibrine and quinine for the febrile movement, and warm fomentations externally for the cheek. On the 8th I saw the patient and found the swelling still increasing to such an extent that both eyes were closed. I then realized that it was a case of septicemia, and I continued the antiseptic washes, tonics, stimulants, and warm fomentations. On the 9th the symptoms seemed somewhat mitigated; 10th, condition unchanged; 11th, fever getting higher and uncontrollable; 12th, I opened an abscess in lower jaw just behind the last molar, tonsils highly inflamed, but trouble seemed to be yielding somewhat, could see out of left eye, drank milk and egg-nog; later on the 12th, symptoms more aggravated, chills and very high fever, temperature 105-105½; 13th, grew constantly worse all day, chills alternating with high fever, temperature 106. Patient died at 9:15 P. M.; temperature just before death 107.

This is a brief record of the case. Hope you will find it of interest. It was very interesting and instructive to me, and very sad.

Yours most respectfully,

Z. BRAINERD.

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### NEW YORK LETTER.

NEW YORK, June 18, 1895.

*To the Editor of the Dental Digest:*

MR. EDITOR:—Some things that have been occurring in Societies and Dental Journals of late whisper to us that they indicate the signs of our times. We have referred elsewhere in our letters to the new departure of legislation for correcting irregularities in the morals of dentists, our first notice of which appeared in the Connecticut law secured some two years since. So far we have not been able to learn the objects or the authors of such legisla-

tion. No one seems to be willing to make an open advocacy of the need of such a law; this attracts suspicion at once. To the surprise of many a law, or a bill for a law, was presented to the New York Societies for their approval; it was called "A Sanitary Law Legalizing the Use of the Cadaver in Dental Schools." There did not appear to be any opposition to this from the dentists, but when the bill came up at Albany there was discovered this additional clause for regulating the professional conduct of dentists.

A special meeting was called in Brooklyn just previous to the convening of the State Society in May, by the Second Dist. Society to protest against such silly legislation, and they resolved to go to the State meeting and use all their power for influencing the Legislature, then in session, against it. But a greater surprise came, for after much time spent in a wrangle by the State body during the first day of the session, the opposition all disappeared and the body voted in favor of the whole thing.

One person whom we knew wrote Gov. Morton urging him to veto the bill. In one letter he consented, but in a second one he said that, as the State body had voted in favor of it, he saw no way out but to concur. So the profession of dental practitioners in New York are now subject to an examination of their moral character by the Board of Regents, upon charges made by *unknown persons*. Coupling these proceedings with the article of Prof. Essig on the "Code" in the June No. of the *International*, and the editorial on "The Larger Dignity of our Profession," the whole matter seems to be emphasized. Where there is so much smoke there is reason for assuming that there must be no little fire. Now for the monkey that is going to poke the chestnuts out, but the law is so constructed that he cannot be known.

Some strange doings have been in vogue in societies, and in the face of all these things the query is, why do not our young men join the societies? We noticed a big stab into the body of the A. D. A. that cropped out in the discussion of Prof. Essig's paper. Few men of spirit can hardly be expected to have grace enough to smile complacently on the open charge of advertising, because he had advocated certain lines of practice. Prof. Truman's oily suggestion that it was the thought of a tired, sleepy member, is a righteous way of meeting such remarks. Many, yes



we think all earnest men have been similarly accused, and it is quite possible that there might have been a little of self in it. "If we don't blow our horns, we don't sell much fish."

If new ventures under new titles will refine our profession, there will be cause for gratitude. The more "Stomachology," we have, the more and better "Digestion," we trust. The Odontological Society of New York City has felt the need of two stomachs; nature has only one animal provided with two. Great interest will be evinced for the future of these Siamese twins attached to the parent body. If this class of society formation is for the purpose of advancing the interests of our calling, there is unusual activity along this line.

Of course all these bodies will be expected to send delegates to the National body. Under the circumstances it will be a marvel if there should be a harmony of interests. We could prophesy, but will not, for we don't think it will be long to wait before the results will be seen.

We turn gladly to something that is really refreshing, the article by Dr. Libby in the journal just mentioned. It is a real relief to have something so original as this article seems to be. We say, seems to be. The first dentist whose attention we called to the article, said, "I've done that." Well, we say this after reading it, we have long believed the operation practical, but have never done it, that is, not in his way. When, in our article in the *Cosmos* in 1870, we introduced the use of "Oval, Smooth-faced Fillers," it was said at once that our attempting to attach a piece of gold to a burnished surface was unphilosophical, yet we claimed that we had done it. Some of the most extensive contouring we have ever done was with these instruments. If we understand Dr. Libby's paper, he has made filling easy and very perfect. Every step in his paper is made definite, and he is entitled to much credit, for a clinic by him will be of fresh interest. The principle has long been in vogue, but this is decided progress. We have had so much threshing out of old straw that anything new enlivens our energies. Burnishers, however used, have the effect of applying the gold in a more perfect adaptation to the walls of the tooth. Dr. O. E. Hill, of Brooklyn, said years ago that a burnisher was one of the most valuable instruments we had. We can not overlook the fact that this instrument was what made the old

"stuff fillings" so tooth-saving years ago; it was what gave the virtue to the filling, often loosely and perhaps carelessly introduced. The power of the rubbing burnisher so closely applied the gold to the walls, and perfected the uncondensed gold so well, that it answers the query: Why did those "old fillings" save the teeth so many years?

In years soon to come we shall find ourselves returning to simpler methods, and then dentists will not have to spend so much of their own and their patient's time and energy when making fillings and doing other work. The principle so readily seen in the burs illustrated in the *DIGEST* is another recognition of a simple principle in excavating, and must of necessity secure a greater immunity from pain.

Not long since Mr. Williams called our attention to his ability to unite wet gold to the surface of the gold ingot by scraping the surface clean. He annealed the pieces, dropped them into a glass of water, and then readily attached them to the surface of the ingot. We suggested doing the same thing with burnishers, so we tried it, and with the same conditions were able to produce the same results. To be sure there cannot be anything practical in these results.

But here is a wise query: What is the scientific meaning of cohesion, as applied to the addition of one piece of gold to another? We do not think we have had a true definition of it as yet.

Cordially,

M. A. G.

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### DENTIST VS. PHYSICIAN.

CHICAGO, June, 1895.

*To the Editor of The Dental Digest:*

I have taken more than a passing interest in the Editorial Comments found on page 108 of the February number of *THE DENTAL DIGEST*, where reference is made to a correspondent of the *Pall Mall Gazette*—a physician—who "went so far as to say that a medical man should first be consulted as to the needs of attention to the teeth, and that a medical man was best qualified to recommend a dental surgeon to a layman."

I will cite a case which has bearing upon the subject. One morning last January, a young lady called at my office, suffering with facial neuralgia, left side. The soft tissues of her face from the median line to the left were much swollen, the left half of the upper lip was twice its normal size, and the left eye could not be opened fully on account of the swollen cheek. The patient was suffering a good deal of pain, and had passed many sleepless nights. She told me that their family physician had failed to give her any relief, but rather made her worse, and she tried another physician who did no better.

She inquired if I could help her out of her suffering. I examined the case carefully, at first seeing no cause for the unusual disturbance, but noticing the upper left first bicuspid was somewhat clouded, being darker than its neighbors, I suspected a dead pulp in that tooth as being the disturbing element, and decided to open into it. It contained a large amalgam filling, and upon inquiry as to her past experience with said tooth, she told me that her dentist in another part of the city had killed the "nerve" and removed it, and filled the tooth about three years ago. Although there was no soreness at all in the tooth as I discovered by several tests, I was firm in my convictions that more or less dead pulp in the canals was the disturber of her peace.

I burred through the filling and found two hollow root canals containing sufficient foul matter to account for her suffering. After cleansing the canals, and treating them as usual in such cases, I prescribed a cathartic and three doses of Fl. Ex. Gelsemium to quiet her nervous system, and told her to call in forty-eight hours. When she called the second morning the swelling had almost all disappeared, and she said she was entirely free from pain in about twenty hours after her first call upon me, and had slept well all of the night just passed. She was very grateful to the dentist, not the physician. After giving the tooth a course of treatment I filled the canals and crown, and there has been no recurrence of the neuralgic pains, nor any disturbance whatever.

H. A. Cross.

# The Dental Digest.

PUBLISHED THE

TWENTIETH DAY OF EVERY MONTH.

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## Editorial.

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### IS IT A SELFISH SCHEME?

Under this head we wish to call special attention to a letter sent us by one of the members of the Protective Association, and our reply to the same. The writer does not directly accuse us of attempting to make a personal gain out of the reputation of the Association, but he insinuates as much, which is more objectionable. As each month the writer has had the DIGEST sent him, wherein explanations and statements have been made which could not help but enlighten him, there are only two conclusions to be drawn. Either he does not read or make any effort to get at the facts in the matter, or else he is so blinded by his own prejudice and suspicion that he cannot see or understand an honest statement of the facts. As we have not his personal acquaintance we cannot decide which is the correct explanation. But as a very large majority of the dentists who receive dental journals do not read them, we hope that this has been the cause of criticism in this instance. We are sure there are logical reasons why some of the journals which have been coming to us from year to year are not read as a general rule, but this is another question which we may discuss later.

On the other hand, if our correspondent is blinded by suspicion or prejudice, then the case is a sad one; and the more so, as it represents a large element in the dental profession, who either because of stupidity, jealousy, or dishonesty cannot recognize or understand unselfishness on the part of others, but must assign mean motives for all such actions. Indifference and carelessness in not reading available matter, which if read would help the receiver, can be excused, and for that class there is yet much hope.

Even the stupid class must be tolerated, although we cannot hope to help them much or to get much from them. But what can be said concerning the other two classes named? Certainly the jealous person does a great deal of harm to himself and to society, while the dishonest one is usually found out and checked in his evil-doing. We believe, however, that the indifference in our ranks is causing much delay and hindrance in the onward march, and we get impatient as we wait for action on the part of members of the Association.

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### AN EXPLANATION.

In the April DIGEST we published a letter from Dr. Ross, with our reply to the same. The letter was a personal one and the correspondence would not have been published, but that we believed there were many others laboring under the same erroneous impressions as Dr. Ross was, and that our reply to him would answer many questions in the minds of these as well. We have every reason to believe that Dr. Ross' criticisms were but honest questions which have existed in the minds of others who did not speak out and ask for an explanation. Since then Dr. Ross has subscribed for the DIGEST and has offered to assist the good work in other ways, and we understand each other better.

We fully intended to make this explanation in the May DIGEST, but in the presence of other matters it was overlooked. We gladly make it now and in justice to Dr. Ross, trusting we have not injured him in any way, and that we may long be permitted to work together.

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### AMERICAN DENTAL ASSOCIATION.

The Annual Meeting of the American Dental Association will be held at Asbury Park, New Jersey, commencing Tuesday, August the 5th.

Arrangements for this meeting are under way and a rate of one and a third fare for the round trip has been secured over most of the railroad lines. A full and complete program of the meeting will soon be sent all journals for publication.

Notice has not yet been received from the College Faculty Association nor the National Board of Dental Examiners as to date of their meetings, but we presume they will be held the Saturday and Monday before the meeting of the Association.

J. N. CROUSE, *Chr. Ex. Com.*

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### THE TRI-STATE MEETING.

The dental meeting which was held last week at Detroit under the above name, and which included the dentists of Michigan, Indiana and Ohio, was one of the best which it has ever been our good fortune to attend. With the exception of the Dental Congress held during the World's Fair, we have never seen such a body of dentists together. We do not know the exact number present, but should say there were about five hundred, composed of the members of the three state societies and a good attendance of visitors. The program had been well arranged by the executive committee, and the meeting differed from most meetings of its kind, in that the hall was too small to accommodate those present. The papers were excellent, but there were so many of them that it left none too much time for discussion by the many who were there, loaded with wisdom and ready to improve every moment.

The social features surpassed anything we have ever seen. The afternoon of the third day was given up to a steamboat excursion to St. Clair Island, where supper was served. This feature of the meeting was well planned and managed by the committee of arrangements, headed by Dr. Geo. L. Field, who always knows how to make such affairs a success. He was justly made the recipient of a present, in the form of a beautiful mounted mirror, given as a slight token of the appreciation of his friends for his part in the meeting. Our friend Field was taken entirely by surprise, and was so overcome that he was hardly able to respond to the very appropriate remarks offered by Dr. Barrett, who was chosen to make the presentation; and we never heard Barrett do so well.

We think that all who attended the meeting came away with a much higher opinion of the dental profession than ever before;

certainly, we were very much impressed, and felt proud and happy to be among so many intelligent and agreeable friends. Is it not just possible that we have gotten into a rut in the way our dental meetings are conducted, hence the meager attendance as well as lack of enthusiasm and interest? Since this new departure has proved to be such an overwhelming success, why not try the plan elsewhere?

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### Book Reviews.

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**WORLD'S HISTORY AND REVIEW OF DENTISTRY.** By Herman Lennmalm, D. D. S. W. B. Conkey Company, Chicago, 1894. Octavo, pp. 420.

This work could hardly be called a history or review of dentistry, as the historical part is contained in a few pages which briefly mention some important events of dental history. The greater part of the work is a compilation of the laws regulating the practice of dentistry in the principal countries of the world. Data respecting dental colleges and dental periodicals are also given. The book is interesting and valuable as a reference for dental laws, colleges, societies, and periodicals.

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### Notices.

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#### INTERSTATE DENTAL MEETING.

The committees appointed by the State Associations of Iowa, Nebraska, Colorado, Kansas and Missouri to arrange for the Interstate Dental Meeting, to be held at Excelsior Springs in May, 1896, will meet at Pertle Springs, Mo., July 10, 1895. A full attendance is desired.

J. P. ROOT, Chairman Gen. Com.

S. C. A. RUBEY, Secretary, Clinton, Mo.

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#### ILLINOIS STATE DENTAL SOCIETY.

The thirty-first annual meeting of the Illinois State Dental Society was held at Galesburg, May 14 to 17, 1895. About 200 were in attendance. The



following named persons were elected officers for the ensuing year: President, Walter A. Stevens, of Chicago; Vice-President, C. R. Taylor, of Streator; Secretary, Louis Ottofy, of Chicago; Treasurer, Edgar D. Swain, of Chicago; Librarian, J. R. Rayburn, of Fairbury; Chairman Executive Committee, W. A. Johnston, of Peoria. The next meeting will be held at Springfield, May 12 to 15, 1896.

LOUIS OTTOFY, Secretary,  
Masonic Temple, Chicago.

### NATIONAL ASSOCIATION OF DENTAL FACULTIES.

The annual meeting of this body will be held at Asbury Park, N. J., on Saturday, August 3d, at 10 o'clock A. M. It is very desirable that all the colleges having membership be present promptly at that hour, as much important business will be before the Association, and the time allotted is usually short for the work to be done.

The Executive Committee of the Association will meet on Friday previous at 10 o'clock at the same place. All business for that committee should, so far as possible, be in their hands before the meeting, in order that there be no delay.

J. TAFT, Chairman Executive Committee.

LOUIS OTTOFY, Secretary, Masonic Temple, Chicago.

### AMERICAN DENTAL ASSOCIATION MEETING.

The Local Committee have arranged with the following hotels and houses for the session of the American Dental Association, commencing Tuesday, August 6, 1895.

The "Coleman House," fronting the ocean, the largest hotel in Asbury Park, rates from \$3.50 to \$4.00 per day, with the use of the ball-room during stated periods of the day and evening for large committee meetings and sections. The "West End" Hotel, a first-class hotel opposite the "Coleman House," rates from \$2.50 to \$3.00 per day, with the use of ball-room at stated periods for committees and sections. The "Ocean Hotel," next door to the "West End," capacity 900, first-class in every respect, rates based on 100 or more Dental Convention guests at \$2.50 to \$3.00 per day, with the use at stated periods of small parlors for committees. The "Hotel Brunswick," near the ocean, first-class in every respect, rates from \$3.00 per day up, and \$20.00 per week up. This hotel has a series of small parlors on the main floor for committees and private receptions, the use of same based on number of Dental Convention guests at the hotel.

In the large hotels the use of the rooms for committees and sections is based on the contract of a certain number of guests, therefore the selection of a room ahead in some hotel is necessary; July 15th is the time the hotels would like to know.

In the small hotels, the "Grand Central," rates \$1.50 to \$2.50 per day, and \$14.00 to \$16.00 per week. The "Ashland," \$2.00 per day and \$8.00 to \$12.00 per week. The "Portland," \$2.00 per day, and \$8.00 to \$10.00 per week. The

"Edgemere Inn," \$2.00 to \$2.50 per day, and \$12.00 to \$20.00 per week. The "Neptune," a nice quiet place, \$1.75 to \$2.00 per day, and \$9.00 to \$20.00 per week. The "Albany," \$2.00 per day, and \$8.00 to \$20.00 per week. The "Clifton," \$2.00 per day, and \$15.00 per week. The "Strand," \$2.00 per day, and \$10.00 per week.

The committee will have an attendant at the Auditorium from July 27th to August 9th, to give information in reference to hotels, and other information to the enquiring members. The trolley cars run direct from the depot to the Auditorium. A map of Asbury Park, with the cuts of the hotels and the Auditorium, will appear in the N. J. programme, which will be mailed to every member of the American Dental Association.

CHAS. A. MEEKER, Chairman;  
C. W. F. HOLBROOK,  
C. S. STOCKTON, Local Committee.

#### COMMITTEES FOR SOUTHERN DENTAL ASSOCIATION.

DANVILLE, VA., June 24, 1895.

##### *Editor Dental Digest:*

DEAR SIR:—Please find below list of Committees for Southern Dental Association for this year's meeting, to be held in Atlanta the first of October next. Please kindly publish if you have space.

*Officers of the Association.*—H. E. Beach, Clarksville, Tenn., President; J. S. Thompson, Atlanta, Ga., First Vice-President; L. P. Dotterer, Charleston, S. C., Second Vice-President; R. D. Seals, Fort Smith, Ark., Third Vice-President; H. A. Lowrance, Athens, Ga., Treasurer; E. P. Beadles, Danville, Va., Corresponding Secretary; S. W. Foster, Atlanta, Ga., Recording Secretary.

*Committee on Arrangements.*—Frank Holland, Atlanta, Ga., Chairman; C. T. Brockett, Atlanta, Ga.; J. A. Thornton, Atlanta, Ga.

*Committee on Operative Dentistry.*—W. J. Barton, Paris, Texas, Chairman; W. T. Arlington, Memphis, Tenn.; E. Wagner, Montgomery, Ala.; R. A. Bullington, Memphis, Tenn.; J. Rollo Knapp, New Orleans, La.; U. D. Billmyer, Chattanooga, Tenn.; William Crenshaw, Atlanta, Ga.

*Committee on Prosthetic Dentistry.*—R. R. Freeman, Nashville, Tenn., Chairman; R. K. Luckie, Holly Springs, Miss.; C. L. Alexander, Charlotte, N. C.; J. R. Dodge, Douglass, Ga.; George Evans, New York, N. Y.; W. H. Marshall, Oxford, Miss.; W. G. Browne, Atlanta, Ga.

*Committee on Dental Education.*—Gordon White, Nashville, Tenn., Chairman; M. F. Finley, Washington, D. C.; J. W. Boozer, Columbia, S. C.; D. N. Rust, Alexandria, Va.; W. E. Walker, Bay St. Louis, Miss.; G. M. Rousseau, Montgomery, Ala.; A. W. Harlan, Chicago, Ill.

*Committee on Hygiene.*—J. H. Durham, Wilmington, N. C., Chairman; B. D. Brabson, Knoxville, Tenn.; L. M. Cowarden, Richmond, Va.; W. J. Morrison, Nashville, Tenn.; T. M. Hunter, Fayetteville, N. C.; J. N. Jones, Jacksonville, Fla.; C. S. Stockton, Newark, N. J.

*Committee on Pathology and Therapeutics.*—T. H. Parramore, Hampton,

Va., Chairman; I. N. Carr, Tarboro, N. C.; G. J. Fredericks, New Orleans, La.; E. G. Quattlebaum, Columbia, S. C.; T. P. Hinman, Atlanta, Ga.; J. C. Wilkerson, Selma, Ala.; J. H. Marshall Chicago, Ill.

*Committee on Histology and Microscopy.*—A. G. Fredericks, New Orleans, La., Chairman; J. Taft, Cincinnati, Ohio; C. V. Rosser, Atlanta, Ga.; James Chace, Ocala, Fla.; E. S. Chisholm, St. Louis, Mo.; J. H. Harris, Baltimore, Md.; W. C. Klatte, Charleston, S. C.

*Committee on Chemistry.*—L. D. Carpenter, Atlanta, Ga., Chairman; A. A. Dillehay, Meridian, Miss.; S. P. Sharp, Knoxville, Tenn.; R. C. Young, Anniston, Ala.; L. Augspath, Little Rock, Ark.; Morgan Adams, Sardis, Miss.; D. R. Stubblefield, Nashville, Tenn.

*Committee on Literature and Voluntary Essays.*—M. C. Marshall, Little Rock, Ark., Chairman; W. W. H. Thackston, Farmville, Va.; G. F. S. Wright, Georgetown, S. C.; Francis Peabody, Louisville, Ky.; H. W. Morgan, Nashville, Tenn.; E. L. Hunter, Enfield, N. C.; W. H. Cook, Denton, Tex.

*Committee on Publication.*—S. W. Foster, Atlanta, Ga., Chairman, *ex-officio*; L. G. Noal, Nashville, Tenn.; B. H. Catching, Atlanta, Ga.

*Committee on Appliances and Improvements.*—H. J. McKellops, St. Louis Mo., Chairman; George Eubank, Birmingham, Ala.; G. S. Staples, Sherman, Tex.; F. H. McAnnally, Jasper, Ala.; W. T. Martin, Yazoo City, Miss.; C. Still, New York, N. Y.; I. N. Wills, Savannah, Ga.

*Master of Clinics and Chairman of Clinic Committee.*—S. B. Cook, Chattanooga, Tenn.

Yours very truly,

E. P. BEADLES,

*Corresponding Secretary Southern Dental Association.*

## News Summary.

**A Correction.**—The formula on p. 297 of the May DIGEST should read, Oil Cassia 1 dr., instead of 1 oz.

**Personal Notice.**—At the commencement exercises of Lake Forest University, held a fortnight ago, the honorary degree of LL. D. was conferred upon Dr. Truman W. Brophy. This is a most worthy distinction and one of which the dental profession may well be proud.

**The Death Rate.**—It has been computed that the death rate of the globe is 68 per minute, 97,790 per day, or 35,717,790 per year. The birth rate is 70 per minute, 100,800 per day, or 36,817,200 per year, reckoning the year to be 365¼ days in length.—*Scientific American.*

**Gum Boil.**—A periodontitis may frequently be aborted by painting the inflamed gums several times a day with a mixture of tincture of Iodine and tincture of Aconite, one drachm each, and Chloroform and tincture of Benzoin, each fifteen minims.—*The Practitioner.*

### Obituary.

#### REPORT OF COMMITTEE APPOINTED BY THE NEW YORK ODONTOLOGICAL SOCIETY TO DRAFT RESOLUTIONS RESPECTING THE DEATH OF DR. ARNOLD C. HAWES.

Your Committee do respectfully report as follows:

On the seventh day of April last, Dr. Arnold C. Hawes, one of the earliest and most esteemed members of this Society, entered into his final rest.

Soon after the formation of the Society he was elected an active member, and so continued until he retired from practice and took up his residence at his country seat in Connecticut. He then tendered his resignation and was made an honorary member.

Dr. Hawes was one of the founders of the First District Dental Society; its first Vice-President, and second President. He was one of the original members of the American Dental Association, and for a time served as Treasurer of that organization.

Dr. Hawes was one of the most prominent and best respected members of our specialty; a man of sterling integrity, with generous impulses and candid manners. He was much interested in the work of our professional associations, and especially so in this, his favored Society. He was also an occasional contributor of articles for our dental journals.

Most of the gentlemen present will remember his ever genial, smiling face and the warm grasp of his friendly hand. He was a model of good nature, winning the respect and love of all who knew him. You will perhaps also remember that for many months Dr. Hawes was almost totally blind, yet he bore his misfortune with a remarkable degree of cheerfulness; and when by a surgical operation his sight was partly restored, his joy and gratitude seemed unbounded.

In view of the departure of our late friend and fellow member, it is fitting that we record our high appreciation of his excellent character as a gentleman and professional worker. Therefore, be it

*Resolved:* That while we mourn the loss of one who for so long a time was our intimate associate, and who by his cheerful spirit and kindly disposition endeared himself to his friends and fellow members, we are devoutly thankful that it was our privilege to enjoy his congenial companionship and to have been classed among his friends. And in our affectionate remembrance comes also the cheering thought that he led a good and useful life, and earned an honorable record.

Dated, May 27, 1895.

CHARLES E. FRANCIS,  
C. A. WOODWARD,  
ALBERT H. BROCKWAY,  
Committee.